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ABSTRACT

This document is the second of seven volumes included in the Rachel Carson Project. The project attempts to introduce environmental lessons and units into existing courses of study within a high school rather than to implement environmental education through the introduction of new courses. This volume focuses on the social science area by emphasizing environment through Stuart Udall's THE QUIET CRISIS. The unit concludes with a study of participatory democracy in contemporary America with specific conservation organizations as examples. The volume includes THE QUIET CRISIS unit; suggested methods of instruction including games, contemporary music, and projects; a study of conservation organizations; a discussion on the meaning of "environmental backlash"; and examples of students' ideas solicited from an assignment regarding a land ethic for the future. (MLB)

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THE AMERICAN AND HIS ENVIRONMENT - A SOCIAL SCIENCES COURSE

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Project Reports, Volume II
The Rachel Carson Project
USOE Project No. 1-0839
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R. Thomas Tanner, Director

September, 1972

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ED 099187

The American and His Environment

(A Course in the Social Studies)

by

Joanne James

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The American and His Environment: A Rationale

A basic need, for all of us, is to know, to understand, and to act in cooperation with Nature. This means that all of us must update our education, learn how to resolve our misunderstandings, become dynamically and effectively involved in helping to meet this most serious threat mankind has ever faced.

We have already proven our deadly capacity to poison our entire environment, world wide. Here in America, a country with little more than 6% of the world's total population, we consume in excess of 50% of the world's natural resources, renewable as well as non-renewable. While our domestic population continues to increase, we keep on producing goods at an ever accelerating rate, mindless to many side-effects and after-effects. The marvelous diversity of life-forms on this planet is inexorably reduced. It is clear that before we become totally effective in brutalizing Nature's complex systems and write FINIS to our human future, we must adjust as a species and as a member and citizen of the land-community.

The lateness of the hour is a recent discovery by most of us. Much of our own concern has come to us from little bits and pieces of information from the mass media or from occasional books. Today we have an updated library of knowledge by which to piece together our awareness, to begin to understand manifold ways in which we can work effectively towards a truly viable human future.

Our job as teachers of the social studies should be unmistakably clear. In broad outline, our task is and always has been to help boys and girls learn to live effectively today and to prepare them for useful, interesting, and fulfilling lives well into the future. If this is our task, then we cannot ignore the man-environment crisis of this century in the social studies curriculum. Society has entrusted us with an enormous job and a tremendous responsibility. If we are to meet the challenge, then we must help each boy and girl come to an understanding of the relationshp between man and his environment. Then we must assist each student in developing a land conscience that will inspire daily acts of stewardship which will make America a more pleasant and productive land.

Joanne James
July, 1972

This volume is one of seven which constitute appendices to the "Operating Manual for Rachel Carson High," final report to the U.S. Office of Education, U.S.O.E. grant number OEG-0-71-4623. That report describes the Rachel Carson Project, which was supported by a grant from the Office of Environmental Education of the U.S.O.E. The Project was an attempt to pervade the existing curriculum of a high school with environmental education, with participation by faculty members representing many (ideally all) disciplines.

The project was based upon the philosophy that a positive environmental ethic should pervade our culture subtly but powerfully, just as - some people would say - materialism or pragmatism now do. Perhaps the best way to encourage the new ethic through formal education is to pervade the culture of the school, subtly but powerfully, rather than to establish a single new course such as "Man and Environment" or "The Environmental Ethic." (Note that the American public school does not offer courses in "Materialism" or "Pragmatism" - enculturation to these values, if indeed it occurs, is via more subtle means.)

This philosophy at work was exemplified by the present writer in an article entitled "A Day At Rachel Carson High," which appeared in the Phi Delta Kappan in March, 1970 (vol. 52, no. 7, pp. 399-401). The article follows a boy through one day at the fictitious Carson High. On this day: his chemistry class is dealing with the chemistry of the internal combustion engine and its emissions as they interact with biota; his English class is discussing the novel The Roots of Heaven, about one man's war against ivory hunters; his physical education class is examining various outdoor recreational activities and the degree to which they do or do not interfere with the activities of others; his American problems class is reviewing old American values such as freedom and equality before the law, and discussing the kind of physical environment in which they can best be popularly achieved.

On this particular day, classes are shortened so that teachers may have one of their regular planning meetings, the object of which is to facilitate the planning of their courses around such themes as:

Tomorrow's Technology and Today's License. (Rapaciousness toward natural resources is frequently excused with the rationale that tomorrow's as-yet-undeveloped technology can restore or offer satisfactory substitutes for those resources. This is a dangerous and irresponsible fallacy.)

Man in Nature, Man over Nature. (The belief that we can conquer nature has traditionally pervaded our culture - another dangerous fallacy.)*

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*The reader may wish to refer to other themes and concepts underlying the project. Various of these have been elucidated by the present writer in articles in: The Science Teacher (April 1969, pp. 32-34; April 1972, pp. 12-14); Phi Delta Kappan (March 1970, pp. 353-356); Environmental Education (Summer 1971, pp. 34-37); AIBS Education Division News (August 1972). See also Hawkins, Mary E. (editor), Vital Views of the Environment, National Science Teachers Association, 1971, for an excellent selection of important concepts explained in brief articles by highly qualified authors. We have found this volume useful.

At the fictional Carson High, more or less standard course titles are retained, but each course includes lessons or units reflecting themes such as those above. During the 1971-72 school year, we attempted to implement this model at the new Crescent Valley High School in Corvallis, although some of our work was also done in Corvallis High School, for reasons discussed in the body of our final report.

Participation was sufficiently wide and diverse as to include classes in typing, modern foreign languages, home economics, industrial arts, drivers' training, English, the natural and social sciences, and mathematics, as well as so-called extra-curricular activities. As noted earlier, this volume is one of seven, largely teacher-written, which describe the lessons and units developed during our brief experiment in curriculum innovation.

We hope that the Rachel Carson idea and at least some of these materials will be found worthy of emulation elsewhere.

We wish to thank all of those who participated in the project, and we especially wish to thank Dr. Clarence D. Kron, now Chairman of the Department of Education at the new University of Texas of the Permian Basin in Odessa. As Superintendent of Corvallis Schools, he offered the unfailing support which made the project possible. We are confident that vision and dedication will continue to characterize his performance at his new position, as was true here. We wish to thank also our new Superintendent, Dr. Thomas D. Wogaman, for continuing to provide an atmosphere congenial to our work during its final stages.

The titles of the report and the seven accompanying volumes are as follows:

Main Report: OPERATING MANUAL FOR RACHEL CARSON HIGH

Accompanying Volumes:

I. MAN AND NATURE - A LITERATURE COURSE
II. THE AMERICAN AND HIS ENVIRONMENT - A SOCIAL SCIENCES COURSE
III. ENVIRONMENTAL STUDIES IN THE PHYSICAL SCIENCES
IV. ENVIRONMENTAL STUDIES IN SEVERAL SCIENCE COURSES
V. CASE STUDIES OF CONSERVATION "BATTLES"
VI. ENVIRONMENTAL STUDIES IN NINE COURSES AT CRESCENT VALLEY HIGH
VII. ENVIRONMENTAL STUDIES: FIVE MISCELLANEOUS REPORTS

* * * * * * * * * * * * * * * * * *

Regarding the present volume: as explained in the body of the main report, it was necessary to divert somewhat from our proposed course of action in order to achieve the expected level of results in the English and social sciences areas. After a careful screening of an outstanding group of applicants, we hired Mrs. Joanne James to introduce two special courses during the last nine-weeks grading period of

the school year. One was a contemporary literature course emphasizing the environment, with Edward Abbey's Desert Solitaire as the primary vehicle, among other works which were used. The other was primarily a U.S. history course, using Stewart Udall's The Quiet Crisis as the principal vehicle. The course concluded with a study of participatory democracy in contemporary America, with specific conservation organizations as examples.

We would emphasize that the content and procedures of these two courses could be integrated into one-year courses in literature and U.S. history, in which the environment is a pervasive but not a conspicuous and all-dominating theme. This would be maximally consistent with the project philosophy. That the material of these first two volumes was concentrated in special courses was due to circumstances beyond our control. With this proviso, we commend them to the reader's attention.

R. Thomas Tanner, Director, Rachel Carson Project

Cispus Environmental Learning Center
Randle, Washington 98377
September 23, 1972

Contents:

Introduction to the Teacher

I. The Quiet Crisis Unit

II. Selected Methods of Instruction: Comment

a. Games
b. Contemporary Music: The Message
c. Promoting Learning Through Projects

III. Study of Conservation Organizations

a. Conservation Publications
b. Trips
c. Resource Persons

IV. "Environmental Backlash:" A Test in Critical Thinking

V. Final Paper: "A Land Ethic for Tomorrow"

Note to the teacher:

I want to take a moment to stress upon the teacher the importance of flexibility in our conservation education programs. The teacher must be willing and able to adapt this course, as well as others, in response to the needs of the student. Allow me to pursue this theme of "adaptability" by relating to you the particular situation I was confronted with in my group of students.

The students in my class were generally very pessimistic in outlook, feeling that we had already reached the point of "no return" in terms of saving the environment. The future looked very bleak to them, and they held no hope for a better America.

Such despair about our environmental situation can only lead to apathy. But it is only through action, not apathy, that we can work effectively towards a better future. We've got to be concerned about getting the young people to participate in making this world a better place and not to want to drop out and run away from it. I've talked to many students in the high schools and on college campuses, and this is a major problem. It is very tempting for young people to want to run away from the world that they see around them into a drug haze, or just bum around the streets and forget about it all - to do anything but get into it and participate and make this world a better place to stay.

We must give the youth of despair a message of hope. The phenomenon of public concern has become a firm reality in this country. The questions about man's relationship to his environment have been taken up not only by youth but by all ages - by the concerned citizens, the professsionals, the scientists, the humanists, the politicians, and the businessmen. They sweep across wide diversities of age, position, attitudes, politics, and so forth. No politician today dares ignore the rising tide of environmental concern. They cannot ignore the questions.

A strong emphasis on the work and accomplishments of conservation organizations should be made to students of the doomsday philosophy. For instance, one cannot help but feel that we are making progress after hearing about the work of various conservation organizations, such as The Nature Conservancy. Since 1954, The Nature Conservancy has been the active agent in the preservation of 400 separate natural areas, from Maine to Washington, from Florida to Hawaii, in more than 40 states. Surely this constitutes progress. Surely this gives us hope for the future.

Apathy not only arises from despair but also from ignorance and/or disbelief. There are those who still see no need for alarm in regard to man's relationship to his environment. To them, the environmental crisis is a silent crisis, not just a quiet one. These people must be shaken from their apathy. They must be made to realize that our environmental crisis is a very real one which requires urgent action.

In providing for the needs of the uninformed or the unbelieving, a strong emphasis should be placed on the warnings of many of the so-called doomsday philosophers. Reading Perils of the Peaceful Atom or The Doomsday Book may be just what the unaware and unbelieving need in order to

shake them out of their disbelief. These books, however, would be unappropriate reading for those already without hope, only driving them deeper into despair.

I have included a list of recommended books for the "unbeliever" on the following page. Although some scientific "experts" may contradict some of the "facts" presented in these books, the call for concern is nonetheless significant.

Joanne James
July, 1972

Books for the "unbeliever":

1. Curtis, Richard (et al) - Perils of the Peaceful Atom
   (1970, Ballantine)
2. Carson, Rachel - Silent Spring
   (1962), Houghton Mifflin)
3. Ehrlich, Paul and Anne - Population, Resources and Environment
   (1970, Freeman) hardback
4. Ehrlich, Paul - How To Be A Survivor
   (1971, Ballantine)
5. Laycock, George - The Diligent Destroyers
   (1970, Doubleday)
6. Marx, Wesley - The Frail Ocean
   (1967, Coward-McCann)
7. Montague, Katherine and Peter - Mercury
   (1971, Ballantine)
8. Morris, Desmond - The Human Zoo
   (1969, McGraw Hill)
9. Novick, Sheldon - The Careless Atom
   (1969, Delta)
10. Pendleton, Don - Population Doomsday
    (1970, Bee-Line)
11. Reinow, Robert and Leona Train Reinow - Man Against His Environment
    (1970, Ballantine)
12. Reinow, Robert and Leona Train Reinow - Moment in the Sun
    (1967, Dial Press)
13. Snyder, Ernest E. - Please Stop Killing Me
    (1971, Signet)
14. Taylor, Gordon Rattray - The Doomsday Book
    (1970, Fawcett)
15. Wise, William - Killer Smog
    (1968), Rand McNally)

I. QUIET CRISIS UNIT

The following paragraph appears on the back cover of the paperback edition of The Quiet Crisis, published by Avon:

A powerful call to conscience

America has in its natural resources an almost unlimited wealth of esthetic and economic riches. The key word is "almost" - for with the appalling industrial fouling of air, water, and land, the wanton destruction of beauty, and the ever-increasing encroachment on open space, we stand at a point of acute, if quiet, crisis. In this book, the former Secretary of the Interior tells the tremendously important and often deeply moving story of those who have fought tirelessly against this destruction, and suggests ways to combat and overcome the distructive tendencies still operative in our society. The Christian Science Monitor has said of The Quiet Crisis, "Anyone who loves the natural beauty of the earth and understands even in the least degree mankind's responsibility as stewards of this beauty, will find this volume both absorbing and demanding....the book is one to value oneself, and to share with those who care."*

Stewart Udall has outlined the land-and-people story of our continent. In reading The Quiet Crisis, we see that each generation has had its own rendezvous with the land. By choice, or by default, each generation has carved out a land legacy for its heirs. Many have misused the land and diminished the usefulness of its resources. In so doing, they raided the Indians, they raided the continent - and they raided the future.

We must now develop a land conscience that will inspire a new relationship between man and his environment. Man must see the land as a community to which he belongs; then he may begin to use it with love and respect.

* Reprinted from the Avon edition of The Quiet Crisis by Stewart Udall, by permission of Avon Books. Subsequent quotations from The Quiet Crisis are by permission of Holt, Rinehart and Winston, Inc. Copyrighted 1963.

Note to teacher:

Udall's The Quiet Crisis lends itself admirably to the study of conservation in America. This story of the land-and-people encounter in America can be easily expanded for further study. My students found Udall's book to be very readable. Several students commented that this was the first time they had read a history book and enjoyed it.

This unit has been organized on a chapter by chapter basis. Suggestions for a variety of correlative materials and activities are included in each chapter. It is hoped that the teacher will expand upon these guidelines as interest and time allows.

This course was developed during a nine-week quarter. However, it was felt by the teacher and the students that this couse was best suited to a semester's period of study. We were constantly rushing in order to cover material. Also, many students were unable to develop areas of personal interest in regard to conservation and the environment. I would therefore recommend that the study of "The American and his Environment" be offered as a semester course at your school.

Chapter 1 - The Land Wisdom of the Indians

Theme: The American Indian showed a great affection and reverence for the land. The homeland was the center of the universe.

Question: What aspects of the Indian culture (traits shared among many Indians) contributed to their affection for the land?

Answer:

1. Social organization[1]
   The social organization of many American Indians was based on family and clan units. Perhaps, because of this type of organization, the American Indian was more generation-conscious. Perhaps this had some bearing on their belief that unborn generations had a claim on the land equal to our own.
2. Religious beliefs[2]
   The life of almost all Indian societies was colored by a deep faith in supernatural forces that were believed to link human beings to all other living things. Man was therefore intimately involved with nature in religious doctrine.
3. Indian lore[3]
   Among the most common stories were those that related how mankind had been created. For example an Achomawi Indian story told how common people came from the shavings of serviceberry sticks. Here we see that the origin of man comes from other living things, from Nature.

4. Concept of earth - "The land is our mother."[4]
   Question: Teacher may ask class:
   At Taos Pueblo in New Mexico, Indians may still be seen taking shoes off horses and walking about in soft-soled shoes themselves in the spring. Can anyone venture a guess why?
   Answer: Because they believe that in the spring, the earth is pregnant and they must not harm her body. Taos Indians, also, are not alone among Indians who still resist or avoid the use of modern agricultural implements, such as steel-bladed plows, which would slice open the breast of their earth-mother.

   The Indians regarded the earth as the mother of all life - and this belief was reflected in their concept of land ownership. To them, land and its produce, like the air and the water, were free to the use of the group. No man might own land as personal property and bar others from it.
   Note: No clash of concepts caused more friction than this one between Indians and white men in the United States.
5. Man in Nature instead of Man over Nature
   "Most Indians had respect, if not reverence and awe, for the earth and for all of nature and, living close to nature and its forces, strove to exist in balance with them."

1-5 The Indian Heritage of America - Alvin M. Josephy, Jr.
Published in U.S. by Alfred A. Knopf, Inc., N.Y., © 1968
1. p. 24, 2. p. 25, 3. p. 26, 4. p. 27, 5. p. 27

Case Study of Cherokee Tribe"

1. One of "The Five Civilized Tribes"
2. The Cherokees attempted to adjust to the white man's ways; they adopted much of the white man's civilization.
   Source material:
   a. The American Heritage Book of Indians © 1961
      Editor: Alvin M. Josephy, Jr.
      Published by American Heritage Publishing Co., Inc. pp. 230, 219
   b. The Indian Heritage of America - Josephy, pp. 108-109

Question: Why were the Cherokees so eager to adopt White man's ways?
Answer: (Udall) this was done - "All with the purpose of becoming so civilized that the whites would allow them to stay on their lands and not ship them west to the Territories." p. 17

3. Outcome: Trail of Tears
   a. American Heritage - p. 234-235
   b. Indian Heritage of America - p. 324

At this point, we listened to the contemporary song about the Cherokee Nation - "Indian Reservation" from the following record album:
The Raiders - Indian Reservation
Columbia C 30768
Produced by Mark Lindsay/Arranged by John D'Andrea
Manufactured by Columbia Records/CBS, Inc. 51 W. 52 St. N.Y., N.Y.

Summary of Basic Indian Truths: (Udall, p. 24)

1. unborn generations have a claim on the land equal to our own.
2. men need to learn from nature.
3. men need to replenish their spirit in frequent contacts with animals and wild land.
4. men should possess a sense of reverence for the land.

> You ask me to plow the ground.
> Shall I take a knife and tear my Mother's breast?
> Then when I die she will not take me to her bosom to rest.
>
> You ask me to dig for stones.
> Shall I dig under her skin for bones?
> Then when I die, I cannot enter her body to be born again.
>
> Smohalla

The above quote by Smohalla reveals the attitude of the Indian toward the land - one of reverence, kinship.

"Nature is everything important to the Hopi. It is the land, all living things, the water, the trees, the rocks - it is everything. It is the force or the power that comes from these things that keeps the world together....This is the spiritual center of this land. This is the most sacred place. Right here in this mesa....Before the white men came, all Hopi were happy and sang all the time. The Hopi didn't have any class structure at all - no bosses, no policemen, no judges - everyone was equal. There weren't any politics then....In those days the air was clear and everyone could see far. We always look to the Earth Mother for food and nourishment. We never take more than we need. Our lives were very rich and humble. We live close to the Earth as laid out by the Great Spirit. When the white men came, everything started to get out of balance. The white brother has no spiritual knowledge, only technical. He made the white man's government which always try to take away the Indian's land.... Now there is a big strip-mine where coal comes out of the Earth to send electricity to the big cities. They cut across our sacred shrines and destroy our prayers to the six directions....Peabody is tearing up the land....It is very bad that Peabody takes away the water because it upsets the balance of things. You can't do things like that and have Nature in balance."

John Lansa, a Hopi elder, speaking about the strip-mining of Black Mesa

Chapter 2 - The Birth of a Land Policy: Thomas Jefferson

Book: Notes on the State of Virginia by Thomas Jefferson
Edited with an introduction and notes by William Peden
Published for the: Institute of Early American History and Culture at Williamsburg, Virginia
By the University of North Carolina Press © 1954
Used with permission.

Quote from Introduction:

"Begun almost accidentally as an essentially statistical survey, the Notes of Virginia is an engrossing commentary on various aspects of American life and history during the last decades of the eighteenth century."

Personally, I found Jefferson's book not only useful in revealing his interest in the land, but also in providing many descriptions of the state of the environment which show striking contrasts to present day conditions. (examples will follow)

Query II: Rivers (Jefferson's chapters are called "queries")

a. Mississippi p. 8
"This river yields turtle of a peculiar kind, perch, trout, gar, pike, mullets, herrings, carp, spatula fish of 50 lb. weight, cat fish of an hundred pounds weight, buffalo fish, and sturgeon.

Alligators or crocodiles have been seen as high up as the Acausas. It also abounds in herons, cranes, ducks, brant, geese, and swans...."

It is interesting to note the various species mentioned in Jefferson's description of the Mississippi River, some of these are now classified as rare or endangered species.

The United States Department of the Interior, Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife, puts out a publication - "Rare and Endangered Fish and Wildlife of the United States" (Red Book) that may be found useful here. This publication is for sale from:

Superintendent of Documents
Government Printing Office
Washington, D.C. 20402

My analysis of Jefferson's data on fish and wildlife species along the Mississippi River (according to 1968 classification - red book) is as follows:

a.	Trout	Extinct - 1 species,	Endangered - 6 species,	Rare - 2 species
b.	Pike		Endangered - 1	
c.	Sturgeon		Endangered - 1	Rare - 2
d.	Alligator		Endangered - 1	
e.	Crocodile		peripheral - 1	
f.	Herons			Rare - 1
g.	Cranes		Endangered - 1	Rare - 2
h.	Ducks	Extinct - 1	Endangered - 3	
i.	Geese		Endangered - 3	

Discussion of American Alligator (Item d. above):
(Source: National Wildlife Federation - Action Leaflet - Endangered Species © 1970. Reprinted by special permission.)

"Today the American alligator is dangerously close to extinction. This unique, giant lizard was in no such danger only a short time ago in its swampy, sub-tropical environs in parts of the Southeastern U.S. In only 20 years, habitat destruction has wiped out 95% of the alligators."

The Issue of Wildlife Preservation

Areas for discussion:

1. What is extinction?
2. Why does it matter?
   a. obvious desirability and inherent beauty of wild species
   b. to alter the environment to the point of eliminating any kind of animal shows an arrogance that is dangerous for man himself.
   c. interrelatedness of all species and the complex relationships of all living things, including man. ("web of life" concept, etc.)
   d. "Freedom and a Varied Environment"
      by R. Thomas Tanner from The Science Teacher, Volume 36 Number 4, April 1969, p. 32-34.

e. Man's Efficient Rush Toward Deadly Dullness
by Kenneth E. F. Watt
Natural History, Feb. 1972 p. 74

3. What is the cause?
   a. changes in types of vegetation (i.e., forest, brush or grasslands to cultivated crops)
   b. elimination of natural areas
   c. drainage of wetlands
   d. alteration, filling and pollution of waters
   e. poisoning of environment with chemicals
   f. over-hunting

   Note: Primary cause of extinction is loss of habitat.

4. What is being done?
   a. sportsmen
   b. organizations
   c. legislation

   Note: Endangered Species Conservation Act Public Law 91-135, 91st Congress, H.R. 11363, December 5, 1969

At this point, I introduced the subject of importers and dealers of wildlife. One can write "Defenders of Wildlife" magazine or "Biology Teacher" magazine to obtain specific information regarding names of dealers, etc.

I was able to provide each student with an itemized price list from a specific wildlife importer. Many students were repulsed by the seemingly callous manner in which these sales were handled. In the following statement of terms, one gets the impression that dealings are being made in shoes or girdles, not in precious, living animals. "All claims for animals arriving dead or in damaged condition must be accompanied by a bad order form from the carrier the same day delivery is made."

Note: The Endangered Species Act is meant to prevent the importation of endangered species of fish and wildlife into the United States. However, Section 3(c) states that importation may be allowed for "zoological, educational, and scientific purposes," .... This section had provided a legal loophole, so to speak, as questionable importations still occur.

In an affluent society, status symbols and fashion trends can mean the complete extinction of any wild thing that becomes the whim of fad and fashion.

Examples:
   a. fashion trends that encourage the wearing of leopard, cheetah, jaguar, and other rare furs.
   b. exploitation of polar bear for rugs and household decoration.
   c. demand for sea turtles, alligators and crocodiles for shoes and handbags.
   d. "novelty" gifts.

The following is an item that occurred in a Christmas Catalog (1969)

A Real Ostrich Egg

Ask any sculptor....it's the perfect shape. So when your guests want to know what it's for (and they all will) the reply is "Too look at." Stands 7½" high on its lucite stand. Blown out empty, of course. Shell is very thick - walled and husky. Imported from Africa.
68088 -(3 lbs.).....$12.95

Additional materials relevant to this topic may be found in the following:

1. Endangered Species Hearings (before the Subcommittee on Energy, Natural Resources, and the Environment of the Committee on Commerce, U.S. Senate - 91st Congress - First Session on S. 335, S. 671, and S. 1280) May 14 & 15, 1969. Serial 91-10.

"A Hopeful Note"

National Survey: Coats from Endangered Species Scarce

Due to a combination of attacks by conservationists and private interest groups and recent restrictive legislation, coats from endangered species will not find their way into many furrier's salons this fall. In a survey conducted by Women's Wear Daily the following was revealed:

San Francisco - Department, specialty, and fur stores are barred from selling any furs on the endangered species list by a state law which was passed early last year. Most stores report they had stopped such sales before the ban.

Chicago - Illinois has no laws on endangered fur species. However, a bill has been introduced in the state legislature to prevent the sale of skins and garments from leopard, snow leopard, clouded leopard, tiger, cheetah, vicuna, red wolf, polar bear, mountain lion, jaguar, ocelot, and margay. The Associated Fur Industries is asking members to write their congressmen and keep it from reaching the hearing stage. As it is, most Chicago stores do not stock such furs anymore and find little demand for them.

Philadelphia - Better fur specialty stores here have been hit hardest by the conservation movement. Spotted fur sales have fallen, and demand is generally lower.

The campaign to protect wildlife by cutting down consumer demand for wild animal products is now a national issue. About one year ago FOE (Friends of the Earth) ran a full page ad in the annual fur issue of Women's Wear Daily, and these survey results are testimony to the effectiveness of the campaign.

Query II: Rivers (continued)

b. Ohio p. 10

"The Ohio is the most beautiful river on earth. Its current gentle, waters clear ....."

Note contrast of description of Ohio River to the scores of U.S. rivers that are severely polluted today. Among the worst is the 80 mile-long Cuyahoga in Ohio, which splits Cleveland as it reaches the shores of Lake Erie. "Some river, chocolate-brown, oily, bubbling with surface gases, it oozes rather than flows. .....the lower Cuyahoga has no visible life. ...It is also - literally - a fire hazard....."
(Editor's note: the Cuyahoga has been known to catch fire.)

Source: Time, August 1, 1969 - p. 41
Environment, "The Cities: The Price of Optimism."

Unexplored possibilities:

1. One could locate some current water quality data on the Ohio River - to see what kind of comparison exists between Jefferson's descriptions and present-day conditions.
2. Ohio River Pollution Control, Part I
House Document 266
78th Congress, 1st Session, August 27, 1943
U.S. Government Printing Office, Washington: 1944
Report upon survey of the Ohio River and its tributaries for pollution control. p. 2

"Practically all streams in the Ohio River Basin are polluted by domestic and industrial wastes, while some have severe corrosive characteristics imparted to them by acid mine drainage. The Ohio River is polluted to such an extent that 30 public sources of water supply serving about 1,660,000 people are endangered."

Query VI: Productions Mineral, Vegetable and Animal

a. Jefferson has prepared a listing of the Birds of Virginia. pp. 66-69
Many of these species are now classified as endangered, rare, peripheral or status-undetermined species. As there has been an apparent change, not only in popular names but in the Latin designation as well, it may be quite difficult to identify all of the species listed in order to determine their present status.

Query VIII: Population (of Virginia)

a. 1782 - 567,614 1971 - 4,648,494

Query XIV: Laws

a. "The laws have also descended to the preservation and improvement of the races of useful animals, such as horses, cattle deer; to the estirpation of those which are noxions, as wolves, squirrels, crows, blackbirds...." p. 135

Question for thought:
It is interesting at this point to speculate upon the effect of man's classification of animals, (in such terms as "useful," "noxions,"), on the fate of such animals.

Note current status of named "noxions" animals:

1. Plains Wolf - extinct 1926
2. Eastern Timber Wolf - endangered
3. Texas Red Wolf - endangered
4. Kaibab Squirrel - rare
5. Delmarva Peninsula Fox Squirrel - endangered
6. Ciricahua Squirrel)
   Eastern Fox Squirrel) status-undetermined mammals
   Apache Fox Squirrel)

Unexplored materials relevant to the topic of endangered species:

1. Endangered Species Hearings before Subcommittee on Energy, Natural Resources and the Environment of the Committee on Commerce, U.S. Senate, 91st Contress, May 14 & 15, 1969

Chapter 3: The White Indians: Daniel Boone, Jed Smith, and the Mountain Men

Main themes:

1. The frontiersmen and the mountain men gave us a lasting gift in their love of the land.

2. Daniel Boone gave us a lasting legacy as an outdorsman. Land-planning eluded him; he seemed to hold the notion that every man should have a chance to own his own piece of property to use as he saw fit. Implicit in his way of life also was the idea that part of the land should be publicly owned as a permanent "hunting ground" for all who like the out-of-doors.

3. The mountain men were men of courage, outward bound to conquer and explore. They filled the vacuums and fixed the boundaries of our nation.

4. Although the mountain men established an ideal of prowess that entered the marrow of one national character, they also had their defects, and these, too, must be entered in the record. "Their undisciplined creed of reckless individualism," (perhaps best exemplified in their raid on the beaver), "became the code of those who later used a higher technology to raid our resources systematically."

5. The White Indians, (the frontiermen and the mountain men), left us a land legacy that was a combination of a love for the land and the urge to exploit it shortsightedly for profit."

Udall mentions the writings of John Filson and his tales of Daniel Boone. Udall states that "Filson's Kentucke was a halfway house between the Garden of Eden and the Big Rock Candy Mountain." ...."Filson's tales

of Boone, like the legend of Paul Bunyan, helped fill his fellow Americans with optimism that made a paradise of any land to the West." p. 40

At this point, I thought it might be worthwhile to read to the students a few examples of Filson's writings. My source was:

1. The American Year
   Edited by Henry Hill Collins, Jr.
   G. P. Putman's Sons, New York
   p. 60 "First Spring in Kentucke" - John Filson

   This selection does provide some good examples of Filson's writing - (i.e. (p. 61)....."I was surrounded by plenty in the midst of want. .....(p. 62).....Kentucke.....I esteemed a second paradise, at the risk of my life and fortune."

Unexplored Possibilities:

1. One might prefer to consult Filson's Kentucke directly, in order to obtain further examples of his writing.

Udall refers to Jedediah Smith as the most remarkable of the mountain men. The astonishing saga of Jedediah Smith is told in a fine biography by Dale L. Morgan. I found this book to be quite valuable in relating to the students some adventures and accomplishments of Jedediah. Morgan's book also includes letters personally authored by Jedediah Smith which tell of his many explorations. There are also personal letters written by Jedediah and his family which may be of interest to your students. Inside the cover there is a map showing the travels of Jedediah Smith in the West, which I reproduced for my students.

Source: Jedediah Smith by Dale L. Morgan
The Bobbs-Merrill Company, Inc.
Indianpolis New York
© 1953, by Dale L. Morgan

Unexplored Possibilities:

1. "The Song of Jed Smith"
   An epic poem by John G. Neihardt
   This poem was found in the following book:
   A Cycle of the West (paperback edition)
   by John G. Neihardt
   University of Nebraska Press - Lincoln
   A Bison Book
   First Bison Book printing, October 1963
   (A Cycle of the West was first published in 1949 by the Macmillan Company).

Chapter 4: The Stir of Conscience: Thoreau and the Naturalists

Udall discusses the following forerunners of the conservation movement:

1. William Bartram
2. John James Audubon
3. Francis Parkman
4. Ralph Waldo Emerson
5. Henry David Thoreau

Due to limitations in time, I was unable to pursue study of these men with equal amounts of time and energy. However, several were selected for additional study.

1. John James Audubon

   I was able to bring to class a collection of Audubon's fifty most famous prints. These were obtained from the Oregon State University library. The students seemed to enjoy seeing examples of his work.

   Note to teacher: If such a collection is not available for your use, many Audubon plates can be found in the numerous Audubon volumes, (i.e. Birds of America, Quadrupeds collection.)

2. Henry David Thoreau

   a. Dr. Thomas Tanner served as a resource person today in showing his slides of Walden Pond as it looks today. Most of the pond has been preserved as it was in Thoreau's day, due to the vigorous activities of conservationists. However, one of the beaches is used for swimming and appeared rather congested.

   b. The best of the Thoreau biographies is perhaps that by Joseph Wood Krutch.

      Source: Thoreau by Joseph Wood Krutch
      © 1948, by William Sloan Associates, Inc.
      Manufactured in U.S.A.
      Published simultaneously in Canada
      by George J. McLeod, Ltd. Toronto

      Krutch states: "The lesson which Henry David Thoreau had taught himself and which he hoped he might teach to others was summed up in the one word: "Simplify!"

Class Exercise:

Three central features of Thoreau's doctrine were presented to the class for observation and comment. Each feature was considered separately. The discussions which evolved were very enthusiastic as well as constructive. (These three features of Thoreau's doctrine as as follows.)

Thoreau Doctrine:

1. Ideal society:
   a. technologically simple, not complex
   b. characterized not by multiplicity of goods that everyone could have, but by the number of things we had discovered we no longer needed.
   c. men would lead lives of contemplation in close contact with nature and would find joy in performing simple, essential tasks -- not what is commonly called a "high standard of living."
   d. an economy of deliberately chosen scarcity rather than an economy of abundance.

2. Ideas on Reform:
   a. Reform is possible only in so far as each man reforms himself.
   b. All attempts to save mankind through concerted effort are vicious and self-destructive.

3. Men vs. Institutions:
   Question:
   Which of the following statements would Thoreau agree with?
   a. Men are what they are because of the kind of society in which they live.
   b. The kind of society in which men live was created because men are what they are.
   Answer: Choice B

   Thoreau believed that ultimately it is men who make institutions rather than insitiutions which make men. It was not necessary he felt, that man become a "product" or a "victim" of his times. Rather, it was possible for man to resist "forces," to refuse to be a product. Thoreau went off to Walden to demonstrate that if you don't like the world you find yourself in, you can at least get away from it and thereby find your own happiness.

Unexplored Possibilities:

1. The Portable Thoreau (Walden (complete), essays, poems, letters) Edited by Carl Bode, © 1947 by The Viking Press, Inc.

   The Portable Thoreau includes numerous examples of Thoreau's writing - of his naturalist philosophy. This book might be used by either the teacher (to provide the students with pertinent readings) or by the students themselves.

2. Each of the five "idea makers" discussed in Udall, namely Thoreau, Emerson, Parkman, Bartram, and Audubon, are excellent subjects for individual student reports or projects. There appears to be the possibility of employing numerous teaching methods in the study of these men, including films, individual and/or group reports and projects, or even role-playing.
   a. Suggestion for an unexplored role-playing venture: A dialogue between:
      1. Thoreau and a dam builder on Concord
      2. Thoreau and a Maine logging camp representative
      These dialogues could well illustrate the land-consciousness of Thoreau and the raider spirit of the era.

Note to teacher on role playing:

The development of the field of sociometry has opened up sociodrama and role-playing as a method of teaching. To those who have used these methods, they are thrilling and loaded with possibllities for learning.

Role-playing and sociodrama are terms used to indicate the acting out in a spontaneous way of situations of importance to individuals and

groups. No script is written in advance; the students "write" the script as they enact an imaginary scene. There are no customes. Role-playing can be done by students from their seats as well as in front of the class. Through this method, students are more likely than in other ways to "feel" as other people feel or have felt and to "think" as they think or have thought. It is an attempt to get inside the "shoes" or "minds" of other people.

What are some of the advantages of role-playing? For one, it enables boys and girls to step into the shoes of people of other times and other places. Secondly, it enables them to make history more vivid and real. Role-playing also releases the imagination of students, so often stifled by other methods. It is also a valuable method of learning in that it adds variety and spice to class work. And lastly, role-playing is conducive to attitude change and it encourages thinking.

I would like to offer a few suggestions in regard to the use of these methods. First of all, let role-playing be spontaneous, unrehearsed. Usually the teacher will permit the students to pick their own roles. However, at times you may want individuals to play the roles of persons with whom they disagree, assigning them these roles. It is also wise to start with volunteers. Not every one will feel free to play roles at first.

Selected References on Role-Playing and Sociodrama:

1. Boyd, Gertrude A., "Role Playing." Social Education, October 1957. (pp. 267-269)
2. Grambs, Jean D., and Lucien B. Kinney, "Sociodrama in High School Classes." Social Education, December 1948. (pp. 341-343)
3. Grambs, Jean D., and William J. Iverson, Modern Methods in Secondary Education. New York: Dryden, 1958. (Chapter 9)
4. How to Use Role-Playing. Chicago: Adult Education Association of the U.S.A., 1960. 48 pp.
5. Jennings, Helen Hall, "Sociodrama as an Educative Process" in 1950 Yearbook of the Association for Supervision and Curriculum Development, Fostering Mental Health in Schools.
6. Jennings, Helen Hall, Sociometry in Group Relations. Washington: American Council on Education, 1959. 105 pp.
7. Zeleny, Leslie O., How To Use Sociodrama. Washington: National Council for the Social Studies, 1955. 8 pp.

Unexplored Possibilities: (continued)

3. Film (I have not previewed this)
   Film: Audubon and the Birds of America - 16 min. - color
   John Audubon and his early life in Pennsylvania. Deep interest in birds and wildlife. Many watercolor paintings of birds. Failure as a business man and success as a painter.
   Coronet Films, 1957.

Chapter 5: The Raid on Resources

Discussion Questions:

1. What was it that induced a state of mind that made waste and plunder inevitable? (Udall: "the intoxicating profusion of the American continent." Reference should be made to what Udall calls "the Myth of Superabundance." (p. 66)
2. Subject: The raid on oil.
   When early disputes arose as to ownership, the courts held that the oil belonged to anyone who could capture it. This Law of Capture put a premium on speed, and most of the time the big rewards went to whoever struck the underground treasure first. The result was an enourmous waste of resources.

   Teacher should take note of the effect of laws on the actions of men. Students should be made aware of the need for men to be farsighted in writing legislation.

   Question: How might a law of ownership (in relation to the oil resources) been written in order to discourage waste?

3. Opinion question:
   Who do you think were the most destructive of all the raiders? Why?
   Teacher should also point out the two types of "raiders":
   a. those fully realizing that they are liquidating a resource.
   b. those who unwittingly diminish the productivity of our land.

   Students might give examples of both types of raiders, as illustrated in Udall's chapter, as well as contemporary examples.

The remainder of the period was spent relating to the students the story of the slaughter of the buffalo. My source was as follows:

Vanguards of the Frontier by Everett Dick, Ph.D.
D. Appleton - Century Company, Inc.
New York London © 1941
Note: Chapter XIX: Slaughter of the Prairie Game p. 428

This chapter provides a clear, vivid, absorbing account of the slaughter of the buffalo. Figures such as: Buffalo Bill killed 4,280 buffaloes in eigteen months; Brick Bond - over 6,000/60 days; from 1872 - 1874, 3,698,730 buffalo (estimate) were killen on the Southern Plains------provide a feeling for the magnitude of the slaughter.
Note: The students seemed to be quite captivated by the account of the slaughter which was drawn from this chapter.

The Raid on Resources: A Contemporary Focus

The class read and discussed the following article:
"The Earth's Natural Resources" by Paul B. Sears.
Reprinted by special permission from Sears "The Earth's Natural Resources," No Deposit - No Return, edited by Huey D. Johnson, 1970, Addison-Wesley, Reading, Mass.

THE EARTH'S NATURAL RESOURCES

Paul B. Sears

Our planet, vast as it is in human terms is finite. The age of exploration settled whatever doubts may have existed on that score. Jefferson understood this when he made the Louisiana Purchase, yet statesmen long after his time spoke of the limitless resources of North America. Much of our economic behavior and many of the ideas that defend it seem to be based on this kind of rosy assumption.

While circumnavigation showed earth's limits in terms of space, its unique qualities were made clear only much later. In a modest little volume, The Fitness of the Environment, Lowell Henderson drew upon information from geochemistry, energetics, and physiology, as well as astronomy, to show that ours was the one planet in our solar system fitted for life as we know it. He is said to have thought lightly of this work or even to have regretted writing it.

Perhaps he felt that he had taken valuable time merely to emphasize the obvious. If so, he greatly overestimated the level of understanding among his fellows, even among some who should know better. One of the most valuable results of our exploration of outer space has been the reminder to mankind of its good fortune to be alive.

Among natural resources there are three--air, water, and food--without which no animal, man included, can survive. As to those three there is no choice; but whatever else becomes a resource--materials for tools, shelter, clothing, energy, amenities, and luxuries--is a cultural matter. Of all resources, air is the most uniformly distributed in quantity and quality. But not even air remains unaffected by human use. Cultures may conserve resources or dissipate them. So far as the basic physiological resources--air, water, and soil (i.e., food)--are concerned, the most serious effect of human activity has been to disrupt the great natural cycles that regulate their quality and abundance.

And while the sun paints its energy with a broad brush, shifting its band of pigments in obedience to celestial geometry, the picture so created is modified by the irregular distribution of water and land, as well as by the varying qualities and forms of the latter. While stresses within our aging planet continue to reshape its surface, wind and water, powered by the sun, share the task. Yet, cushioning the violence of these changes in no small measure, there is the life that has risen and flourished by virtue of a fraction of the same energy that produces the stresses.

Uncounted forms of life have come and gone, giving rise to highly organized communities in water and on land. By no means changeless themselves, these communities are agents of constructive change, slowing the flux of endless physical forces. Stabilizing the surface, regulating the economy of water, purifying the air, and creating soil, they

have not only maintained but enhanced the capacity of the earth to sustain life.

Recently, in the scale of geological time, a new species has appeared. Endowed with grasping hands, binocular vision, erect posture, the power of speech, and above all, an enlarged brain, it has become the dominant organism and a major natural force. For most of the more than a million years of man's existence in substantially his present form, his power to alter environment grew very slowly. Communities of other forms of life continued to maintain balance and heal the scars of fire and other human tools. Little more than ten thousand years ago, the invention of plant and animal husbandry increased both human leisure and human numbers and thereby magnified man's impact on his environment. Natural communities, with their stabilizing effect, became his rivals for space as his own numbers increased and became more concentrated. As he intensified his efforts to produce food and fiber, more often than not he reversed the conserving and constructive processes of nature. The rise and fall of human cultures is witness to the resulting decay in the power of environment to regenerate itself.

It would seem reasonable to expect that increasing scientific knowledge would bring about a healthy relation of man to environment. Instead, his disruption of those conditions to which he owes his very existence has taken on new dimensions. His numbers are increasing exponentially. He has tapped vast reserves of energy built up during the geological past. Thus he has created a condition well known in physics--decreased freedom of the individual unit with increased numbers and energy within a finite space.

Currently there are six deaths per hour from automobile traffic. Mass fabrication, ranging far beyond the production of necessities, dissipates the reserves of minerals and taxes the power of soil, water, and air to recuperate. Industrial and municipal wastes pile up faster than they can be handled or even rendered innocuous, let alone reused.

Long ignored, these consequences are now causing sufficient discomfort and damage to receive attention. We hear increasing demands for more knowledge, new laws, or even new economic and political systems. Useful as such instruments may be, they are no better than the beliefs and accepted standards that give them force.

The creative genius of mankind is challenged in all its range to design a future, not only for survival, but for a kind of survival that has meaning. In its ultimate character this is not an operational but a philosophical problem. Behind the fact of life is the problem of its meaning. In the cold light of today's overwhelming mass of knowledge, whatever meaning life is to have must be the creation of man himself.

I. Reading Time

Students were told to read Dr. Sears' article carefully, thoroughly, thoughtfully.

II. Discussion Questions:

a. "Our planet, vast as it is in human terms, is finite."
Question: What is Dr. Sears' saying?

Allow me to quote R. Thomas Tanner[1]:

"An infinitely expanding population can seek infinite material for only a finite period of time, since it exists in a closed system: a planet with finite (having limits) resources of space and material."

The important point here is simply that our resources on the planet Earth, both in terms of space and material, are exhaustible--they can be used up.

b. "One of the most valuable results of our exploration of outer space has been the reminder to mankind of its good fortune to be alive."
Question: Do you think that this has been the typical reaction of most Americans to our scientific achievements in outer space? If not, in what other ways have Americans reacted to these achievements?

The students seemed to feel, that our achievements in space exploration have lulled us into a false sense of security--that (people feel) that some day we will be able to find our mineral resources on Jupiter, our water on Mars, etc. Stewart Udall has stated, "Our successes in space and our triumphs of of technology hold a hidden danger: as modern man increasingly arrogates to himself dominion over the physical environment, there is the risk that his false pride will cause him to take the resources of the earth for granted--and to lose all reverence for the land."

c. Main concept to emphasize:
"Among natural resources, there are three--air, water, and food--without which no animal, man included, can survive.... So far as the(se) basic physiological resources...are concerned, the most serious effect of human activity has been to disrupt the great natural cycles that regulate their quality and abundance."

d. Dr. Sears talks about the highly organized communities of life in water and on land. He tells us that these natural

1. "The Science Curriculum: Unfinished Business for an Unfinished Century." Phi Delta Kappan, March, 1970 © March, 1970, by Phi Delta Kappan, Inc.

communities are stabilizing factors in our environment - that they "have not only maintained but enhanced the capacity of the earth to sustain life." But these natural communities became man's "rivals for space as his own numbers increased and became more concentrated." In so doing, man has weakened the power of the environment to regenerate itself.

An excellent account of the destruction of a vast natural community in the United States occurs in the following article:

> The Imperiled Prairie: Vanishing American Grassland
> by De Vere Burt
> Reprinted from The Nature Conservancy News, Summer 1971
> by De Vere Burt
> by permission of The Nature Conservancy
> Copyrighted 1971

"The vast prairie ecosystem, with its myriad interdependent plant and animal communities, once covered one-third of the continental United States.....The grasses provided herbage for grazing, and the grazing in turn, along with dry climate and periodic fire, helped maintain the character of the grassland by preventing the growth of forests."

"The fateful turn in the ancient odyssey of the prairie was the coming of civilized man.....As more and more prairie sod was turned to cultivation with the aid of sophisticated machinery, and as settlements developed into cities with interconnecting transportation networks, the floral and faunal communities were subjected to swift and massive destruction."

"Without realizing its ecological, scientific, and educational value, countless engineers and planners are systematically sealing the fate of the remaining prairie with future highways, subdivisions, and reserviors."

Another example of disruption in the natural communities, (as well as numerous others), is given by Edward Abbey in Desert Solitaire.

> Desert Solitaire: A Season in the Wilderness
> by Edward Abbey
> Copyright © 1968 by Edward Abbey
> Mc-Graw Hill Book Company

".....most of the pinyon pines in the area are dead or dying, victims of another pine--the porcupine, the situation came about through the conscientious efforts of a federal agency formerly known as the Wildlife Service, which keeps its people busy in trapping, shooting and poisoning wildlife, particularly coyotes and mountain lions. Having nearly exterminated their natural enemies, the wildlife experts made it possible for the porcupines to multiply so fast and so far that they - the porcupines - have taken to gnawing the bark from pinyon pines in order to survive."

Question: Can you give other examples of human meddling with the natural scheme of things - and the unintended consequences that followed?

Students were able to give many examples - some of which included:

1. introduction of nutria to Willamette Valley
2. the walking catfish, a species that is overrunning some parts of Florida
3. man's unsuccessful attempts to regulate rabbit and predator populations in eastern Oregon

e. "It would seem reasonable to expect that increasing scientific knowledge would bring about a healthy relation of man to environment."

Dr. Sears points out that man's relationship to his environment has not always improved as the amount of his scientific knowledge has increased. Dr. Sears alludes to the danger of overfaith in technology.

Refer to the following article for an excellent account of the theme of overfaith in technology:

"The Science Curriculum: Unfinished Business for an Unfinished Country" by R. Thomas Tanner
Phi Delta Kappan, March 1970
Copyright March 1970, by Phi Delta Kappa, Inc.
Part II: Tomorrow's Technology and Today's License
p. 354

f. "The creative genius of mankind is challenged in all its range to design a future, not only for survival, but for a kind of survival that has meaning. In its ultimate character this is not an operational but a philosophical problem."

Questions:

1. What is Dr. Sears saying here?
2. What kind of survival - what kind of life can you envision in which man survives but his existence has lost all meaning?
3. Do you think we are heading for the type of existence you've just described?

The American and his Environment
Exam on Udall - Chapts. 1-5

Name _____

Date _____

I. Multiple choice. Select the one best answer. (2 points each)

b 1. The American Indian: a) did <u>not</u> develop ties with the land, b) showed a reverence for the life-giving earth, c) was never a "raider" of the American earth, d) understood the concept of private ownership.

c 2. The American settlers: a) believed that the land belonged collectively to the people who used it, b) were unneighborly and showed no respect for Indian rights - <u>especially</u> during the earliest stages of colonization, c) were determined to subjugate the New World, d) made a conscientious effort to keep the products of their technology from the Indians.

c 3. The colonists brought with them three things which would assure their predominance and ultimately change the face of the continent. These things included all of the following <u>except</u>: a) a new technology, b) a cast of mind that made them want to remake the New World, c) a set of agrarian skills that made them well equipped to pioneer, d) a concept of private land ownership.

d 4. All of the following were <u>direct</u> results of the American Revolution <u>except</u>: a) the right to vote, b) the expropriation and subdivision of the Tory estates, c) recognition of "squatter rights," d) the creation of the public domain.

c 5. All of the following are true statements about Thomas Jefferson <u>except</u>: a) his feeling toward the land was one of the strongest influences in the development of his political philosophy, b) he acquired the heartland of the continent for the American people through the Louisiana Purchase, c) he spoke out against wasteful land practices throughout his lifetime, d) he favored small land-ownerships.

d 6. Daniel Boone left us a lasting legacy as a) an agent of progress, b) a promotor of towns, c) a land-planner, d) an outdoorsman.

a 7. Jedediah Smith: a) traveled farther and saw more of the West than any of his contemporaries, b) became the richest man in America because he knew how to organize the extermination of the beaver, c) was <u>not</u> intelligent, but nevertheless possessed great courage, d) was a member of the Lewis and Clark expedition.

d 8. The naturalists were a group of men who were: a) bent on seeking out the larger meaning of nature, b) the "idea makers" - the essential forerunners of the conservation movement, c) active crusaders for the preservation of wild species, wild places, and pastoral settings, d) both a and b, e) all of the above.

a 9. All of the following are reasons why the white man killed the buffalo <u>except</u>: a) to obtain food for the starving settlers, b) to save forage for livestock, c) for trophies and for pleasure, d) to supply profitable freight for the railroads in the form of hides, e) to starve out the Plains Indians.

d 10. The era of the "Big Raids" was a time when: a) belief in Manifest Destiny was at its height, b) government action came to the forefront to save a permanent, public estate, c) men believed in the Myth of Superabundance, d) both a and c, e) all of the above.

II. Matching. (one point each)

D 1. he popularized botany at the turn of the 18th century

O 2. "the Great Giveaway"

H 3. he became a symbolic figure in the fight for the preservation of wildlife

G 4. pre-eminent historian

M 5. the most numerous of all wildlife species on the American continent around 1800

K 6. Law of Capture

I 7. he offered men a life of contemplation and the joy of performing simple, essential tasks.

C 8. he immortalized Daniel Boone

E 9. they adopted much of the white men's civilization in attempting to keep their homeland.

F 10. among the most severely U.S. polluted rivers - has no visible life - declared a fire hazard

A. buffalo

B. Ralph Waldo Emerson

C. John Filson

D. William Bartram

E. Cherokees

F. Cuyahoga

G. Francis Parkman

H. John James Audubon

I. Henry David Thoreau

J. Ohio

K. raid on oil

L. Apaches

M. passenger pigeon

N. Mississippi

O. raid on the forests

P. raid on gold

III. Short essay questions. (5 points each)

1. What was the "Land Wisdom of the Indians"?

2. In what ways are we indebted to the frontiersmen and the mountain men? What were some of their shortcomings?

3 & 4. Describe the contributions of two of the following men as forerunners of the conservation movement: a) Henry David Thoreau, b) Francis Parkman, c) John James Audubon.

5. What was it that made waste and plunder such a pervasive phenomenon during the era of the "Big Raids"?

Chapter 6: "The Beginning of Wisdom: George Perkins Marsh"

Resource books:

1. George Perkins Marsh, Versatile Vermonter
   by David Lowenthal
   Copyright © 1958 Columbia University Press, New York
2. The John Harvard Library Man and Nature
   by George Perkins Marsh
   edited by David Lowenthal
   The Belknap Press of Harvard University Press
   Cambridge, Massachusetts
   © Copyright 1965 by the President and Fellows of Harvard College.

* Note: David Lowenthal's "introduction" to Man and Nature gives an excellent account of the life and intellectual achievements of the remarkable George Perkins Marsh.

In Man and Nature, George Perkins Marsh warned over a century ago that in tampering with nature, man might destroy himself. Through wanton destruction and profligate waste the earth was "fast becoming an unfit home for its noblest inhabitant.....Another era of equal human crime and human improvidence.....would reduce it to such a condition of impoverished productiveness, of shattered surface, of climatic excess, as to threaten the deprevation, barbarism, and perhaps even extinction of the species." Man and Nature was written to reveal this menance, to explain its causes, and to prescribe some antidotes.

Few books have had more impact on the way men view and use land. Appearing at the peak of American confidence in the inexhaustibility of resources, it was the first book to controvert the myth of superabundance and to spell out the need for reform. It showed how man differed from nature; it showed how nature operated within itself; it showed exactly what happened to nature when men cleared and farmed and built. Before Marsh wrote this book, few saw and fewer worried about how man affected his environment. Today Marsh's insights are nearly taken for granted. Man and Nature was indeed "the fountainhead of the conservation movement."

Unexplored Possibilities:

1. The teacher may find numerous passages from Man and Nature of interest to his or her class. The selection of passages would, of course, vary with teacher and student interests.
2. Many comparative studies could be made, time permitting. Students might read specific warnings in Man and Nature concerning man's relationship to his environment, and then relate these warnings to contemporary problems of conservation.

Chapter 7: The Beginning of Action: Carl Schurz and John Wesley Powell

The students seemed to think that this chapter wasn't as interesting as the others. They also found it difficult to remember what these two men did. Therefore I spent an entire period telling the story of these two men in my own words.

Main Ideas:

Carl Schurz:

a. initiated an intensive study of forest depredations
b. proposed stern remedies to counteract these depredations
c. drew angered response from timber-state Congressmen
d. his 1877 report is "a landmark, for his dissent helped set in motion forces that encouraged others to act."

John Wesley Powell:

a. prepared a conservation paper entitled "A Report on the Lands of the Arid Region of the United States"
b. he saw that unless watersheds were protected and water rights ran with the land, (as his plan provided), the water monopolists would cripple the well-rounded settlement of the West.
c. Like Schurz's forest plan, Powell's reform proposals got a cold reception.
d. "Powell did achieve one lasting result: he struck a blow for science," with the creation of United States Geological Survey. "Science finally had a tax-supported home in government, and basic research began as an enterprise of all the people."
e. he was put in charge of an Irrigation Survey, but members of "irrigation clique" in Congress killed the survey before he could finish.

In summary, Udall states:
"Schurz and Powell were, in a real sense, our first field generals in the crusade for land reform and land preservation. As reformers, they lost the battle with their own generation. As land prophets, they won, and their insights have become basic concepts of the conservation movement."

Unexplored Possibilities:

1. National Geographic - July, 1967 Vol. 132, No. 1
   The Journal of the National Geographic Society, Washington, D.C.
   Article: "Lake Powell: Waterway to Desert Wonders" - pp. 44-75

   "In a 170-mile stretch of the river between its junctions with the Dirty Devil and Paria Rivers, Powell and his companions floated on smooth, swift water. Awed by the beauty of the glenlike side canyons, he named the region Glen Canyon." Today these canyons are covered with water. With the advent of Glen Canyon Dam, the waters encroached on the land, destroying much beauty.

This article shows pictures of the area - as Powell saw it and after the gates of Glen Canyon were closed.
Page 51 shows a very dramatic comparison.

2. Desert Solitaire - Edward Abbey
Chapter: "Down the River," pp. 173-220
Copyright © 1968 by Edward Abbey
Ballantine Books, Inc.
101 Fifth Avenue, New York, N.Y. 10003
(available in paperback) (p. 173)
"The Beavers had to go and build another god-damned dam on the Colorado. Not satisfied with the enormous silt trap and evaporation tank called Lake Mead (back of Boulder Dam) they have created another even bigger, even more destructive, in Glen Canyon. This reservoir of stagnant water will not irrigate a single square village; its only justification is the generation of cash through electricity for the indirect subsidy of various real estate speculators, cottongrowers and sugarbeet magnates in Arizona, Utah and Colorado; also, of course, to keep the engineers and managers of the Reclamation Bureau off the streets and out of trouble."

The National Geographic article ends with a quote illustrating a different point of view than Abbey's. "Maybe the dam shouldn't have been built," remarked Buzz Belknap, "but it's mighty hard to mourn Glen Canyon now that I've seen Lake Powell."

I think that these materials could serve as the basis for some very worthwhile discussions. The teacher could summarize the article in National Geographic for the students. Abbey, on the other, must be read by each student in order to be appreciated. Students should be able to discuss questions such as, "Should Glen Canyon have been built? Why or why not?, etc. Hopefully, these discussions will ultimately lead to consideration of the following question: "What is progress?"

Additional question for thought and discussion:

To what extent do we transform the landscape in order to provide accessibility?

One view: "The glens Powell knew are already gone. But thousands of square miles of desert wasteland, hitherto accessible to only a few, have suddenly become available to all." (National Geographic, p. 75)

Abbey's view: "The new dam, of course, will improve things. If ever filled it will back water to within sight of the (natural) Bridge, transforming what was formerly an adventure into a routine motorboat excursion. Those who see it then will not understand that half the beauty of Rainbow Bridge lay in its remoteness, its relative difficulty of access, and in the wilderness surrounding it, of which it was an integral part. When these aspects are removed the Bridge will be no more than museum-like diorama to which industrial tourism tends to reduce the natural world."

"All things excellent are as difficult as they are rare, said a wise man. If so, what happens to excellence when we eliminate the difficulty and the rarity?" (Desert Solitaire, p. 217)

Chapter 8: The Woodlands: Pinchot and the Foresters

Gifford Pinchot

He had a plan and a program for the systematic management of American forests. Pinchot devised a use-with-a-long-view plan. Pinchot defined this countermovement to the raid of the forests as: "the use of the earth for the good of man."

Gifford Pinchot was the key man of a key decade, and his leadership was crucial in persuading the American people to turn from flagrant waste of resources to programs of wise stewardship.

There is a film that corresponds with this chapter:

Film: Greatest Good - 10 min. color
A tribute to Gifford Pinchot whose life efforts were dedicated to conserving the nation's forest wealth so that it might yield "The greatest good for the greatest number of people" for all times. Scenes in the Gifford Pinchot National Forest in Washington. United States Forest Service (film producers and distributors)

Comment: This film shows some breathtaking forest scenery. Landscapes that have resulted from the acts of "raiders" are also shown. The contrast between these landscapes is quite dramatic.

Chapter 9: Wild and Park Lands: John Muir

John Muir: (Main ideas)

1. John Muir felt that it was necessary to preserve permanently large tracts of choice lands in public ownership.

2. With the formation of the Sierra Club, Muir's career entered a new phase: the writer-naturalist became an organizer and a politician.

Pinchot-Muir controversy:

This clash between them "was perhaps the most dramatic confrontation in the history of the conservation movement."

They had fought on the same side in the first stages of the fight against the raiders and against waste and mismanagement of the national estate. Both men were for federal reserves, for government action, and for scientific programs of planning and management.

It was understandable that Pinchot, trained in forestry, would place his major emphasis on silviculture, and on the development of a sustained-yield harvesting program for the forests. He emphasized product values and considered the esthetic values merely incidental. This philosophy of conservation for use collided with Muir's conviction that the best parts of the woodlands and wilderness should be preserved inviolate as sanctuaries of the human spirit. "Drawing a line between the workshop and the temple was, and still is today, the most sensitive assignment for conservation planners."

We talked about the philosophies of Pinchot and Muir concerning conservation. The students seemed to feel that we needed to see both of these men's philosophies in practice today. Certainly, we need to see the forests scientifically-managed, but there must also be other areas which remain untouched, involate for future generations.

Unexplored Possibilities:

1. A class trying to understand the views of Pinchot and Muir might effectively utilize role-playing in attempting to get inside the minds of these two men. It is important that students understand the philosophies of Pinchot and Muir, for the conflict between the two is a crucial area of controversy in conservation today. The arguments presented by these two men would no doubt become more vivid and real in a role-playing situation.

2. A good discussion of the arguments of Pinchot and Muir over the use of Hetch Hetchy can be found in the following source:
   Wilderness and the American Mind
   by Roderick Nash
   Copyright © 1967 by Yale University
   Yale University Press, New Haven, Connecticut
   Chapter 10, "Hetch Hetchy" pp. 161-181

3. The following book reflects three aspects of John Muir's remarkable life: first, as one of the leading figures in the fight for land and forest conservation; second, as a practicing geologist who saw in prehistoric glaciation one of the vital forces in land formation. And third, as an eloquent essayist who celebrated the beauties of the mountains of California for millions of readers.
   The Mountains of California
   by John Muir
   Copyright © 1961 by The American Museum of Natural History
   The Natural History Library
   Anchor Books, Doubleday & Company, Inc., Garden City, New York

Chapter 10: Men Must Act: The Roosevelts and Politics

It is my opinion that the personalities of the two Roosevelts were very much related to the advancements in conservation which were made during this time. Theodore Roosevelt was energetic, outspoken, colorful, unconventional. Few individuals have been more genuinely warmhearted, more full of spontaneity, more committed to the ideals of public service and national greatness. As a political leader, Theodore Roosevelt was energetic and hard-driving and seldom lacking in good judgement: responsibility always tempered his aggressiveness. Above all, it must be said that Theodore Roosevelt believed in action.

When the business interests of the country sought to exploit the national domain, they had no more implacable foe than Roosevelt. He placed some 150 million acres of forest lands in federal reserves, and he strictly enforced the laws governing grazing, mining, and lumbering. When his opponents managed to attach a rider to an essential appropriation bill prohibiting the creation of further reserves without the approval of Congress, Roosevelt hurriedly transferred an additional 17 million acres to the reserve before signing the bill. In 1908 he organized a National Conservation Conference, attended by 44 governors and 500 other persons, to discuss conservation matters. As a result of this meeting, most of the states created their own conservation commissions.

Therefore, we can see that Theodore Roosevelt was successful in saving a land birthright for the American people because of his concept of the presidential office and its powers and because of his energetic, outspoken qualities as a human being.

Correlative materials:

1. Theodore Roosevelt - Henry F. Pringle
   Copyright, 1931, © 1956, by Henry F. Pringle
   A Harvest Book
   Harcourt, Brace & World, Inc. New York

   This is the Pulitzer Prize Biography of Theodore Roosevelt - "Through Biographer Pringle you hear Roosevelt." - Time

2. Another superb biography of Theodore Roosevelt is Power and Responsibility: The Life and Times of Theodore Roosevelt, by William Henry Harbaugh.

Franklin Delano Roosevelt

F.D.R.'s basic position was unmistakable. There must be a "New Deal," a "re-appraisal of values." Instead of adhering to old ideas about the scope of federal power, the government should take on any functions necessary to protect the unfortunate and advance the public good.

The New Deal had an immense constructive impact on the nation. By 1939 the country was committed to the idea that government, especially the federal government, should accept responsibility for the national

welfare and act to meet specific problems in every necessary way. All in all, the spirit of the New Deal heightened the people's sense of community, revitalized national energies, and stimulated the imagination and creative instincts of countless citizens.

Why was F.D.R. successful in moving the cause of conservation ahead? First of all, he was in a position to clearly see the mistakes of the past, "and he realized that one of the best ways to galvanize a demoralized people was to institute programs that would renew and rehabilitate the land." Secondly, conservation was more than a political creed to F.D.A. "He cared about the continent, and his mind was bubbling with ideas about land and water and wildlife." Thirdly, F.D.R. had new and vital ideas concerning the scope of federal power, and he used that power to secure the public good.

Correlative materials:

1. Franklin D. Roosevelt and Conservation 1911-1945
   This two-volume work put out by the Roosevelt Library is a storehouse of original source materials.

2. The Coming of the New Deal
   The section, "The Battle for Public Development"
   by Arthur Schlesinger, Jr.
   .....a first rate account of the significance of F.D.R.'s conservation commitments and achievements.

Udall does not develop the relationship between Progressivism and the Conservation Movement. To supplement the book in this area, I invited Dr. Francis H. Shaw, Department of History, Oregon State University, to lecture and conduct a discussion with the class one day. Following is my summary of his presentation.

Progressivism and the Conservation Movement

The years between the close of the Civil War and the outbreak of World War I saw a marked transformation in the character of the economy of the United States. Transcontinental railroad lines spanned the continent; new industries - electricity, the automobile, among them - were established. Cities boomed as people moved from the countryside to the city and from Europe to America. The nation, in short, was industrialized and urbanized.

This industrial transformation of America shook the middle class. It felt that its values were being threatened by the new set of conditions: the large-scale corporation, labor unions, giant cities, political bossism. And it embarked upon a search for a principle of order: a way of taming the new conditions, of organizing and rationalizing the new urban and industrial order. Emphasis upon efficiency, scientific management, and expert analysis were all very much a part of this search.

If one aspect of the movement of progressivism - the movement for reform - was a search for a more scientific order, another aspect was the desire to restrict private economic power in the interests of democracy, individual opportunity, and individual liberty. The attack upon the big corporation, the large labor union, the political bossism were presumably in the interests of making them more responsive to democratic controls.

The fundamental themes of progressivism were also evident in the conservation movement of the time. For instance, in the Pinchot-Ballinger controversy, Teapot Dome, the fight for water power regulation, the conservationists were concerned with economic justice and democracy - in struggling against private interests in behalf of the public need. But as Samuel Hayes has demonstrated, the conservation movement was above all "a scientific movement" led by a small group of professional men whose objective was the orderly efficient use of resources under the guidance of experts. The conservation movement which arose during the era of the Roosevelts was indeed a part of the larger progressive movement of the time. The search for a more scientific order, the struggle against private interests in behalf of the public need - these were the fundamental themes of both progressivism and the conservation movement.

The American and his Environment
Exam on Udall - Chapts. 6 - 10 Name_____

A. Multiple choice. (2 points each)

A 1. George Perkins Marsh believed that: a) man was subverting the balance of nature to his own detriment, b) the greatest hope for conservation lay within the social and political institutions of our country, c) man's power to transform nature was negligible, d) land, once dominated and then abandoned by man, would revert back to its primitive condition.

C 2. George Perkins Marsh was most significant as: a) a leader in the systematic management of American Forests, b) a crusader for land preservation, c) the framer of a new land ethic, d) a land philantropist.

D 3. All of the following were influential in precipitating the "great barbecue" of resources except: a) the Myth of Superabundance, b) technological advance, c) the raider spirit in the highest councils of government, d) the Homestead Act of 1862

D 4. Carl Schurz: a) was Secretary of the Interior in the Hayes administration, b) initiated an intensive study of forest depredations, c) received great support from Congress for his program of forest management, d) both a and b, e) all of the above.

C 5. A "rider" inserted in the 1891 public lands bill sponsored by Secretary John Noble was one of the most far-reaching conservation decisions ever made in that it: a) gave science a tax-supported base in government, b) established our national-parks system, c) gave Presidents the power to set aside forest reserves, d) became the basis of our national system of waterfowl refuges.

B 6. Our first national park was: a)Yosemite, b) Yellowstone, c) Glacier, d) Sequois, e) Mount Rainer.

A 7. Pinchot's philosophy of conservation differed from Muir's in that: a) Pinchot emphasized product values whereas Muir considered esthetic values of the utmost importance, b) Pinchot was for government action whereas Muir looked to individual acts of responsibility to fight the mismanagement of the national estate, c) Pinchot was for federal reserves whereas Muir was for state-owned land reserves, d) both b and c, e) all of the above.

D 8. The Reclamation Act of 1902: a) made provisions to set aside receipts from land sales and mineral royalities for a revolving fund to finance dams and canals, b) increased the number of national forest lands in 21 states, c) created a federal agency to work on the water problems of the United States, d) both a and c, e) all of the above.

_B_ 9. The most serious shortcoming of Theodore Roosevelt's approach to conservation was that: a) he failed to deal a decisive blow to the Myth of Superabundance, b) his tendency to carry the ball himself encouraged the public to adopt a let-Teddy-do-it attitude toward conservation, c) he had a limited concept of the presidential office and its powers, d) he failed to convey his concern for conservation to the American people.

_D_ 10. The economic depression of the 1930's was closely related to the: a) overgrazing of public-domain grasslands, b) damaging floods of our major rivers, c overfarming of the Plains by the homesteaders, d) all of the above, e) none of the above.

B. Multiple Choice. (1 point)

_C_ 1. Man and Nature

_D_ 2. Rural Electrification Administration

_F_ 3. John Wesley Powell

_B_ 4. Boone and Crockett Club

_K_ 5. "grand chef of the great barbecue"

_J_ 6. Hetch Hetchy

_D_ 7. Civilian Conservation Corps

_B_ 8. White House Conference on Conservation (1908)

_A_ 9. John Muir

_I_ 10. "the greatest peace-time achievement of Twentieth Century America"

A. Sierra Club

B. Theodore Roosevelt

C. George Perkins Marsh

D. Franklin Roosevelt

E. Rutherford B. Hayes

F. United States Geological Survey

G. Grover Cleveland

H. William McKinley

I. Tennessee Valley Authority

J. Pinchot-Muir controversy

K. Ulysses S. Grant

L. Soil Conservation Service

C. Essay Questions. (5 points each)

1-3. Discuss the significance of the following men to the conservation movement in the United States: a) John Wesley Powell, b) Theodore Roosevelt, c) Franklin D. Roosevelt.

4. Udall has referred to the clash between Gifford Pinchot and John Muir as "perhaps the most dramatic confrontation in the history of the conservation movement." How did the conflict between these two men come about? Be sure to describe each man's philosophy of conservation.

Chapter 11: Individual Action: Organizers and Philanthropists

Comment:

This chapter briefly highlights some of the accomplishments of major organizers and philanthropists in the field of conservation. A more thorough look at conservation organizers and their activities appears in a later section of this unit, entitled "Study of Conservation Organizations."

Correlative materials:

1. A recent book which discusses many of the persons and events encompassed by this chapter is James B. Trefethen's Crusade for Wildlife.

   Book: Crusade for Wildlife:
   Highlights in Conservation Progress
   by James B. Trefethen
   A Boone and Crockett Club Book, Copyright © 1961
   Published by: The Stackpole Company, Harrisburg, Pa. and the Boone and Crockett Club, New York, N.Y. 1961

Chapter 12:: Cities in Trouble: Frederick Law Olmsted

Chapter Summary:

Today our cities are a focal point of the quiet crisis in conservation. The urban dweller finds himself increasingly overwhelmed by social and economic and engineering problems which have been the by-product of poorly planned growth. In the future, city planning must put people first. We must affirm the people's right to clean air and water, to open space, to well-designed urban areas, and to mental and physical health. Cities can be made liveable, and we must assert ourselves to that end.

Urban America has had its own conservation prophet and master planner in the figure of Frederick Law Olmsted. Olmsted believed that cities could keep sufficient breathing and playing space to allow continual self-renewal. He proposed that part of the countryside be preserved within each city. Olmsted is perhaps best remembered for his plan for Central Park in New York City. Working with nature, he created an oasis where urban man could refresh his mind and soul. As his vision broadened, Olmsted saw that urban design should include the whole city and provide diverse and continuous enclaves of open space, green gardens, and public playgrounds. Had he been able to win support for his bold conceptions, the shape of many of our cities might be different today. "His aim was to suit the city to the individual, and not vice versa," states Udall, "and perhaps his achievement of a healthy balance between the works of man and the works of nature in an urban setting is his most durable monument."

Topics Relating to City Planning

Opportunities for activities and projects relating to the subject of city planning are virtually limitless. Various topics which you may wish to explore include:

1. How technological "progress" has affected the natural landscape.

2. How population growth has increased man's need for land.

3. How frenetic development has ignored essential human needs in its concentration on short-term profits.

4. How man's needs for space, beauty, order, and privacy might be met in the urban environment.

5. How the unrelieved tension, overcrowding, and confusion that characterized city life affects the mental-health of urbanites.

6. How urban environmental projects might be financed in the private, state, and/or federal sector.

7. How zoning regulations affect the appearance of cities.

8. How the tax structure affects city development.

9. How the design and organization of buildings and projects that make up the total environment relate to urban conservation.

10. The importance of an individual's participation in his community in the fight against urban decay.

Books on City Planning:

Lewis Mumford is, of course, the nonpareil. The Mumford classics are The Culture of Cities and The City in History, but all of his writings have a conservation-of-living values bias that makes them both inspiring and indispensable. It is a mark against his countrymen that during his lifetime he has not been given an opportunity, such as Olmsted had, to put some of his ideas into practice. City conservationists can take heart from the many provocative books which have recently been published concerning the design and planning of cities.

Editor's Note: The contemporary Greek city-planner Doxiadis may be the subject of student or teacher research. Doxiadis' concept of a world city, Ecumenopolis, and the population density levels therein, may not prove palatable to all students, and can provide a potential basis for lively discussion.

Films on City Planning:

1. Green City 22 min. color
   The case for green and open space in urban developments. The often

unnecessary destruction of natural beauty by urban sprawl. The importance of citizen action in conservation of areas for recreation and beauty.
Film distributor: Stuart Finley, 1963.

2. Private Dream - Public Nightmare 30 min.
Metropolis: creator or destroyer series, #4
Examines the community of Eldorado Hills, California. Arguments for and against the success of such a giant, planned development. Whether a well-planned suburban community can be realized through private enterprise.
Film distributor: NET (1964)
National Educational Television Film Service,
Bloomington, Indiana

3. Suburban Living, Six Solutions 59 min.
Compares six examples of suburban planned communities - five abroad and one in Canada. Solutions to the problems of designing suburbs to serve the needs of the whole man.
Film distributor: National Film Board of Canada,
International Film Bureau

Chapter 13: Conservation and the Future

Comment:

The seven reports turned out at the request of former President Kennedy in 1963 by the Committee on Natural Resources of the National Academy of Sciences put the current picture in sharp focus. The book, Resources in America's Future, by Joseph L. Fisher and his associates of Resources for the Future is also very illuminating.

Chapter 14: Notes on a Land Ethic for Tomorrow

Comment:

The students were asked to present their ideas on a "Land Ethic for Tomorrow." Some of these student authored papers are included in the last section. (Section V: "Final Paper: A Land Ethic for Tomorrow")

The Quiet Crisis: Conclusion

The film "Boomsville" has been widely acclaimed by major professional organizations in the field of education including the National Council for the Social Studies, and constitutes a dramatic as well as appropriate conclusion to The Quiet Crisis Unit.

Film: Boomsville 10 min. color
What man has done to his environment from the time of the first explorers until the landing on the moon. How man took virgin land and made a frantic, congested, North American city.
Animated. No narration.
Film distributors: NFBC National Film Board of Canada
LCA Learning Corporation of America

II. SELECTED METHODS OF INSTRUCTION

a. Games

Planet Management Game
Produced by: Houghton Mifflin
777 California Avenue
Palo Alto, California 94304

Results:

Group	Buxs	Population	Income	Food	Environment
A1	100	179	139	134	114
A2		180	157	172	95
B1	100	145	162	138	96
B2		166	157	141	101
C1	92	159	148	117	105
C2		185	162	175	89

Planet Management Game Questions:

1. What kinds of projects would you add to the game to achieve a more desirable end-point? Why?

2. What strategy would you advise other players to use when they play the game?

3. a) Do you note any significant relationships between individual projects and resultant index changes? If so, what are they?

   b) Which indexes go up fastest? Do you think this is a realistic phenomenon? Do some indexes tend to rise as others fall? Does this also seem to be a realistic trend?

4. Group A spends 2 buxs every round (rounds 1-10) on a green project, totaling 20 buxs.
   Group B spends 0 buxs on a green project rounds 1-15 and 4 buxs on a green project rounds 6-10, also totaling 20 buxs.
   How do you think the environmental indexes of these two groups would compare at the end of the game? Why?

Planet Management Game: Sample Student Response

Question 1: What kinds of projects would add to the game to achieve a more desirable end-point? Why?

Student Answer:

"The obvious project would be a type of population control. I believe that the object of this game was to show that a need for population control is inevitable. I say this because no matter

what we did the population would rise. I think this was bad because in desperation we would act inhumanely. We started acting like people were ants that could be wiped out by merely squashing them. When we felt like our population was increasing too much we would cut way down on food and money for the research on the disease Holob inkitis, in hopes that we could wipe out a few thousand people. I think we often view humanity as a great unidentifiable mass rather than as individuals who all deserve a good life. I would propose a broad-based family planning program in hopes of stabilizing the population."

Question 4: Group A spends 2 buxs on a green project every round (rounds 1-10), totaling 20 buxs. Group B spends 0 buxs on green projects rounds 1-15 and 4 buxs on a green project rounds 6-10, also totaling 20 buxs. How do you think the environmental indexes of these two groups will compare at the end of the game? Why?

Student Answer:

"I think that group A's environment will probably be the better of the two because it sounds like they spread their money out pretty evenly. I think that when you spend some money on the environment, from the beginning, you'll be better off than if you let it get out of hand and then try to save it at the end. The United States is a good example of this. If we had tried to protect the environment from the beginning, we wouldn't be in the position we are in now. Instead we let it get almost to the point of no return and now it sometimes seems like an almost impossible task."

Other games:

The following four games not tried in our class are put out by Urban Systems Inc., 1033 Massachusetts Avenue, Cambridge, Massachusetts 02138

1. "Smog" the air pollution game
2. "Dirty Water," the water pollution game
3. "Ecology," the game of man and nature
4. "Population," the game of man and society

b. Contemporary Music: The Message

Contemporary music can be an extremely valuable teaching aid in the social studies. Popular records, in my opinion, ought to be used much more widely than they are at present. Much of the music of today's generation has a real message. And an increasingly number of young musicians are writing and playing music which deals with environmental issues. Listen to some contemporary music; listen to the message.

Record Album: America, "A Horse With No Name"
Producer: Warner Brothers Records, Inc.
4000 Warner Blvd.
Burbank, California 91505

I passed out the lyrics to the following two songs: Donkey Jaw and Pigeon Song. The students studied the lyrics as we listened to the music. Discussion followed.

1. "Donkey Jaw"
Portion of lyric: Get behind me Satan
quit ravishing the land
does it take the children
to make you understand"

Question: Who is Satan?
Responses varied - including such comments as "the Developers," "the Establishment," "the big corporations," "the government," "careless, thoughtless individuals," etc.

Question: Who are the children?
Response: The young generation - our generation. The song seems to be saying that it's up to the young generation and their insightfulness to save our land. Students felt that this was partially true, but also felt that enlightened minds were not the exclusive property of youth. They felt that the young were just as prey to thoughtlessness, exploitation, and irreverence toward mother earth as their predecessors had been.

The students also felt that it would not only take "the children" but all, people - young, old, and in-between - "to make a better land." Every American must develop a land conscience that will make our country "a better land."

2. "Pigeon Song"

One student felt that this song revealed man's attitudes toward nature - that American man has traditionally considered nature to be opposed to his "progress" and has deliberately set out to subjugate the natural world and its laws. American man has traditionally set out to conquer nature - to have dominion over the land.

And somehow, this "man over nature' philosophy has been erroneously equated with man's freedom. So why does man endeavor to conquer - to rule the natural world? - "cause a baby boy has got to be free."

Relevant articles for teacher:

1. "The Science Curriculum: Unfinished Business for an Unfinished Country" by R. Thomas Tanner
   March, 1970 issue of Phi Delta Kappan
   III. Man in Nature, Man over Nature pp. 354-355
2. "Freedom and a Varied Environment" by R. Thomas Tanner
   from the Science Teacher, Vol. 36, No. 4, April 1969.

* Viewing freedom as the function of a varied environment provides somewhat of an antithesis to the "freedom equals dominating nature" philosophy.

c. Promoting Learning Through Projects

Newspaper Project

At the beginning of the term I told my students to begin collecting newspaper and/or magazine articles which related in some way to the subject of conservation, ecology and the environment. At the end of the term they would be asked to turn in their collection of clippings. This collection was also to include comments which they had made on each article.

Assignment:

Turn in a collection of 15 newspaper or magazine articles, commenting on each item. Strive to make intelligent, interpretative and analytical comments regarding these articles.

Suggestions for areas of comment are as follows:

1. Personal reaction to article
2. Possible ecological consequences of issue and/or action stated
3. Relationship of article to basic themes such as:
   a. Man in Nature v. Man over Nature
   b. Overfaith in technology (Tomorrow's technology and today's license)
   c. Ecology as a promotional gimmick
   d. Growth - Progress fallacy
   e. Homogenization of the environment
   f. What is "progress"?
   g. Note the remarks of the narrowly trained specialist, such as:
      "The innovation may not be safe, but it is uneconomical to do otherwise," or
      "Cost benefit analyses reveal that any possible loss in oyster fishery will be more than off-balanced by increased revenues related to recreation."
   h. Sign that America's wealth has made her poor - (crowded campgrounds and highways, ugliness and noise, etc.)
   i. Examples of simplistic solutions to environmental problems - (i.e. electric auto).
   j. Man-land relationships
   k. Numerous themes of Quiet Crisis

Sample of Student Comments

Clipping: The reaction of developers' to one small city's proposed systems development charge, which could have the effect of inhibiting the city's growth and economy.

Comment: "'A community that doesn't grow will die,' he said." The above statement is representative of the growth - progress fallacy. In fact, it might be properly stated that a community that doesn't stop growing will eventually die. Not too many people realize that.

Clipping: Advertisement for second homes in a relatively undeveloped, heavily forested coastal area.

Comment: There's nothing that makes me madder than advertisements like this.

People are buying up forest areas and building cracker boxes on them so people can "get away from it all." They're spreading cities into our beautiful forests.

There is a great contrast between these people who use the forests for their own benefit and those people in the Nature Conservancy who buy land to preserve it for future generations.

Clipping: Conservationists' reactions to the practice of stream channelization.

Comment: This is an example of the "narrowly trained specialist."

"In its court-directed statement, the agency said benefits to farmers in the Chicod area will outweigh costs and any damage to the environment."

This agency is taking advantage of its golden image since the dust-storm era of the 1930's, when they established a good reputation by improving soil and water management on the nation's farms.

Now it seems to have its priorities in the wrong place.

Clipping: Advertisement of auto manufacturer, regarding its new emission control systems.

Comment: Here the big ecology trend is used in advertising. "If you support ecology then support us because we are ecology minded." Are they, or is it because law is forcing them to? Forcing them to spend more money on the cars they make. There are a lot of "instant" environmentalists these days.

Clipping: The potential of wind as a source of power for generating electrical energy in the Pacific Northwest.

Comment: This method of obtaining power from the wind seems very practical and obviously better for the environment. But again a

drastic cut down on the waste of energy is essential. With a new concept of power source and power use we can greatly improve the quality of our land to enjoy natural beauty over electrified comfort.

Clipping: Plans to further develop a coastal area.

Comment: Plans to convert Yaquina Bay into a "massive tourist complex" represent an attempt to exploit the environment for immediate monetary gain. But what about the needs of future generations for the natural, the unspoiled? This kind of activity homogenizes our environment - not to mention the pollutant by-products of commercialization, expansion, etc.

Clipping: Ads for package tours to Hawaii and the Canadian Rockies.

Comment: The ideal holiday. All of Hawaii in a glance. Commercialized of course. But don't plan on having enough time to see for yourself the beauties of the land and of the flowers and animals. And don't plan on feeling a part of nature. That's not included in the $239 trip.

How much better to see Canada for yourself rather than having it spoon fed to you in "11-carefree days."

Clipping: Opposing letters to the editor of a church magazine, regarding the appropriateness of the church's involving itself with the issues of ecology and environment. Also, an interior photo of a beautiful new local church.

Comment: These two letters show opposite extremes of the current ecology fashion. I would agree with Mr. Carlson that ecology is a "fad" but is it not a worthwhile fad? Each Sunday masses of programs are printed up to be used for one hour and then thrown away - recycling these programs is the least they can do. It seems slightly futile though for in spite of recycled programs the churches are great consumers. For instance the newly constructed church pictured above cost around $375,000 and a green meadow and the building materials. Granted it is aesthetically pleasing but rarely is it more than one-half filled. The old building could easily accomodate the whole congregation. It is sad to see people worship a creator by destroying his creation.

III. STUDY OF CONSERVATION GROUPS

a. Conservation Publications

One way of helping students learn about conservation organizations is to familiarize them with the official publications of various conservation groups. Some of these publications are more interesting to high school students than others, and therefore the teacher should be rather selective in his or her choice of materials. My students found two conservation magazines to be of much interest - Audubon magazine and National Wildlife magazine.

Audubon is the official magazine of the National Audubon Society. Most of my students had heard of the Audubon Society, but they had a very narrow concept of its functions and activities. These students thought that the sole function of Auduboners was bird watching. It is true, of course, that the Audubon Society has always acted for the protection and appreciation of species of wild birds. But in its later phase, the Audubon Society has become a much broader-based conservation organization. It has become one of the few conservation organizations to go into the land-management business. It maintains over a million acres in its various sanctuaries for rare bird species, such as the whooping crane and the flamingo. Special crusades by this society have also been launched against oil pollution on the high seas; the pollution of streams, rivers, and estuaries; and the improper use of pesticides. "The flight of a bird is the moment of truth to an Auduboner," states Udall (p. 167) "and the broadening base of his interests is also a hopeful omen." An indication of this broad scope of interests can be found in the slogan which appears on the title page of Audubon magazine: "For the conservation and appreciation of wildlife and wilderness, natural resources and natural beauty."

My students were very impressed with the quality of the Audubon publication. The photography is immediately striking, being unsurpassed in vividness of color and impeccable detail. Through the help of the brilliant photographer, the natural world is transformed into a series of unforgettable images that most of us would never otherwise know. The photographer looks beyond the simple externals of environment; he perceives a new dimension, a new revelation in the landscape. And it is this perception that creates the vitality and meaning of the work. Without perception, a landscape may be flat and meaningless, only suitable for asphalt or the psychedelic irrelevance of an airfield or a convenient highway. But with a perceiving eye, the natural world becomes an artistic drama. And it is the man with the camera who shows us the difference between merely seeing and totally perceving. Someone once said, "a picture is worth a thousand words." The photography collections contained in Audubon magazine surely represent the symbol and substance of this statement.

In addition to these excellent photographic contributions, each issue of Audubon contains a variety of essays, stories and articles which deal with wildlife and wilderness and natural beauty. There is also a section titled "The Audubon Cause" which provides the reader with up-to-date information on ecological issues. Under the heading "Conservation/Legislation," current state and federal legislative

proposals are examined from the Audubon viewpoint. In reading "Econotes," (items of ecological importance on the national scene), one could learn about how summer sunbathers and boaters are bringing death to gulls and other seabirds by tossing aside plastic rings or pull-tabs from soda or beer cans. Or one could read about an Arizona land developer who wants to turn an Eastern wilderness into a snowmobiler's paradise. Students can learn about the recent activities of Audubon societies throughout the United States by reading "Audubon Action." Under this heading, one can easily discover the broad spectrum of conservation-related interests within the Audubon society. "Ecology today" focuses on contemporary conservation issues. Titles of past articles have included "Mountains Versus Minerals," "Amchitka - the Throwaway Island," and "The Gator Killers Never Stopped." The final heading "The Audubon View," states in unequivocal terms the conservationists's viewpoint in relation to matters of environmental importance.

National Wildlife magazine is published by the National Wildlife Federation. In the 1930's the National Wildlife Federation came into being to correlate the activities of thousands of local sportsman's clubs which were the Boone and Crockett Clubs of grassroots America. The federation has helped to educate a whole generation of Americans. Thomas L. Kimball, Chairman, Editorial Board, has given the following statement of editorial goals: "To create and encourage an awareness among the people of this nation of the need for wise use and proper management of those resources of the earth upon which the lives and welfare of men depend: the soil, the water, the forests, the minerals, the plant life and the wildlife." The National Wildlife Federation is truly dedicated to improving the quality of our environment.

First to notice the subtle changes in the many faces of nature is the sensitive individual who records the infinite beauty of the natural world on film - the professional photographer. And the best nature photographers in the world, as seen in each issue of National Wildlife, express growing concern for the future. They fear that opportunities for photographing natural, pristine landscapes may soon be gone forever. They respond to nature in its infinite variety and are moved to silence and awe. For one little part of nature, like the butterfly wing or a single daisy, can reflect the whole universe in all its glory and sensitivity. By looking closely with the photographer, we get a better insight into the whole. The photographs found in National Wildlife are as varied as the personal styles of the photographers themselves. There is a consensus, however: Stop, look, and listen to the message around you. Preserve and protect, before it is too late.

My students thoroughly enjoyed reading many of the feature articles which appeared in National Wildlife magazine. Articles such as "Snowmobiles: Love 'em or Hate 'em," where two experts offer pros and cons of the ubiquitous vehicle, and "Ordeal on Mount Hood," a gripping story of a five-day descent from a white hell, were of special interest to the boys in my class. Titles of past articles which had a universal appeal included "There's Thunder in the Canyon," a thrilling Conservation Safari through the Grand Canyon, "In the Eye of the Storm," an exclusive interview with the EPA's William D. Ruckelshaus, "Are We Losing Our Pioneer Spirit," a thoughtful evaluation of our unique American heritage, as well as many others.

In summary, there seemed to be a general agreement among my students that Audubon and National Wildlife were superb magazines. The editors of these two publications presented a captivating balance between visual material and gripping text, and the students responded with interest and enthusiasm. When over one-third of my students voluntarily approached me for information regarding subscriptions to these two magazines, I felt encouraged that their interest might be more than a passing fancy.

Conservation Publications: Information

1. Audubon magazine
   Audubon, the official magazine of the National Audubon Society, is published six times a year (January, March, May, July, September, November). Editorial and advertising offices: 950 Third Avenue, New York, N.Y. 10022. All correspondence about membership should be addressed to the Membership Department. Subscriptions: $10.00 a year. Single copies: $2.00

2. National Wildlife magazine
   National Wildlife is published bimonthly by the National Wildlife Federation, Inc., a nonprofit corporation. It is a membership publication available only to Associate Members and is not sold on a subscription basis. Associate membership annual dues $6.50. Membership offices: Correspondence about memberships or magazine delivery should be addressed to National Wildlife Membership Services, 1412 16th Street, N.W., Washington, D.C. 20036

Further Possibilities:

The official publications of the following conservation organizations may be found appropriate for classroom use:

1. The Nature Conservancy
   Publication: The Nature Conservancy News
   1800 North Kent Street
   Arlington, Virginia 22209

2. Friends of the Earth
   Publication: Not Man Apart
   editorial offices:
   Friends of the Earth
   451 Pacific Avenue
   San Francisco, California 94133

   Subscription requests:
   Friends of the Earth
   8016-G Zuni Road
   Albuquerque, New Mexico 87108

3. The Wilderness Society
   Publication: The Living Wilderness
   729 Fifteenth Street, N.W.
   Washington, D.C. 20005

4. National Parks and Conservation Association
   Publication: National Parks and Conservation Magazine
   1701 Eighteenth Street, N.W.
   Washington, D.C. 20009

5. The Izaak Walton League of America
   Publication: Outdoor America
   1326 Waukegan Road
   Glen view, Illinois 60025

Note: Here in Oregon, we have a state-based conservation organization known as the Oregon Environmental Council. It publishes a monthly newsletter which provides information on environmental issues in Oregon. I would recommend that you determine whether a similar organization exists in your state. Environmental issues of local concern may be more interesting and relevant to your students than larger national issues.

Conservation Publications: Suggestions for Classroom Activities

I was able to obtain numerous copies of Audubon and National Wildlife for student use. Several issues were checked out by each student. After several days each student was asked to give an oral report on an article that had been of special interest to him. I also instructed each student to prepare a question for discussion which would be presented to the class at the end of his or her report. This technique seemed to be quite helpful in stimulating discussion.

Note to teacher:

If only limited copies of these magazines can be made available for student use, I would still recommend that every effort be made by the teacher to utilize these materials. The students could perhaps take turns checking out the magazines throughout the term and then a few reports could be given each week.

b. Field Trips

Trips can provide unparalleled learning experiences in the study of conservation organizations. Trips are unique in that they provide first-hand observation and new information. They also tend to stimulate student interest in the topic of conservation.

When I first mentioned to my students that we sould be spending some time studying conservation organizations, they weren't very taken with the idea. Student reactions varied from polite "oh"s to more definitive statements such as "yuk" and "ugh." After reading Audubon and National Wildlife, student interest in the subject of conservation organizations had definitely increased, but it wasn't until we shared a very special experience at a very special place that the work of conservation organizations became real and meaningful to everyone.

The conservation organization which we went to learn about on our trip was The Nature Conservancy, a national non-profit member-governed organization dedicated to the preservation of our vanishing natural lands. Some quarter million acres of forests, swamps, marshes, prairies, seashores, and islands throughout the United States have been saved from destruction through Conservancy action. These natural areas are acquired through purchase with funds raised locally and nationally and through donations of land from concerned individuals and organizations. The endurance of the natural quality of the land is of primary importance in determining the use of these natural areas. Scientific research, outdoor education, and other non-destructive public uses are usually permitted.

As previously mentioned, The Nature Conservancy is an organization whose total resources are massed to preserve the highest quality natural areas for scientific research, different sorts of education, and especially to act as preserves or sanctuaries for species other than man. The last epitomizes the very essence of Camassia Preserve, which implicitly emphasizes the preservation of natural diversity.

The Camassia Preserve is located in West Linn, south of Portland, Oregon. The area comprises 22.7 acres. Its flowers include the fawn lily, camas, cluster lily and corn salad; trees include oak, madrone, and quaking aspen. The area also provides habitat for some species rare to the Willamette Valley, such as kinnikinnic, dwarf huckleberry and sphagnum. Finally, there are a number of ponds with acquatic life and some natural rock gardens. The area also bears a fine record of the last-Pleistocene Missoula Flood.

With the assistance of an able biologist and guide, my students and I explored the trails of Camassia. Soon we were able to see that nature had provided us with a storehouse of scientific treasure. We listened to the sounds of birds which momentarily came our way. We explored rocky beaches, meadows with abundant wildflowers and lush, green forest. Here was an area of incredible biotic diversity. Here we could see that there was a community between the birds, animals, plantlife, earth, water, and even the weather. This community was

part of an awe-inspiring pattern, and one could not help but appreciate the delicate relationship among all things. Camassia had truly become a stimulating, exciting, exacting experience. We had felt the sharpening and heightening of our senses. Camassia was no longer a physical location; it was a very special place, claimed by our feelings of experiencing deeply.

Before we left Camassia, I gathered my students around me and asked them the following question: "Do we need places like this?" Several students commented on the need to maintain important natural refuges for the earth's beseiged biota. One boy pointed out that we need field laboratories containing the raw materials of biological study in order to carry out our basic scientific research. "It's a place to get away from it all," another student commented. "It's peaceful here and I can relax." From their comments, I gathered that my students recognized the values of nature preserves for their educational, research, aesthetic, and ecological functions. But it was the comment of one girl that perhaps expressed it best: "Being here makes me feel good about myself. As I walked along the trails, I felt in harmony with my environment. Here there is an intimate sense of belonging; here I know that I am a part of Nature and not alienated from it."

It wasn't until the following day that I fully understood the effect our trip had had on all of us. Upon returning to the classroom that morning, we noticed for the first time the ugliness of the room around us. We felt a sense of humility, realizing how crude the most spectacular man-made thing was compared with a baby rabbit or the wondrous perfection of a single flower or any of nature's many treasures. Knowing Camassia had given us a new perspective; we could see how inadequate and uninspiring the man-made world was compared with the world of nature. We had discovered a new meaning in the word "beauty." We had all drawn inspiration from the miracles of nature we had witnessed on our walk through Camassia.

As previously mentioned, one girl had stated that Camassia made her feel good about herself. But that day we not only felt good about ourselves - we felt good about one another. There was a special closeness that comes from sharing a nature experience. We looked at one another, few words were spoken, yet everyone understood. One boy later expressed what it was that everyone understood that day. "I know now that I never really understood the value of natural areas until I visited Camassia. Camassia has become a part of me. Camassia is often in my thoughts; I hope I never lose the memory of the sights and sounds and smells of that special place. This is the kind of effect natural areas can have on people. These places can open people's eyes and make them realize just how beautiful the country is, and in turn, impress upon them the urgent need to preserve this beauty."

Note to teacher:

For information regarding Conservancy-preserved lands in your state, write to the nearest Regional Office of The Nature Conservancy.

Western Regional Office
215 Market Street
San Francisco, California 94105
(415) 989-3056

Midwest Regional Office
329 West 15th Street
Park Terrace Building
Minneapolis, Minnesota 55403
(612) 332-2060

Eastern Regional Office
1800 North Kent Street
Arlington, Virginia 22209
(703) 524-3151

Mid-America/Gulf Regional Office
260 Ludlow Avenue
Cincinnati, Ohio 45220
(513) 961-0725

c. Resource Persons

The following person or persons may be utilized as resources in teaching students about conservation organizations:

1. Representatives of a local chapter of a national conservation organization such as the Audubon Society, Izaak Walton League, Sierra Club, The Wilderness Society, etc.

2. Conservation groups of a local origin.

3. Representatives of state-based organizations, such as the Oregon Environmental Council.

Note to teacher:

Beware of titles!

Just because an organization has the word "environmental" or "conservation" or "ecological" in its title, do not assume that this organization has our best interests at heart. There is much exploitation of these words today to suit selfish interests. Look carefully at the positions taken by these groups in relation to environmental issues before you make a judgement.

IV. "ENVIRONMENTAL BACKLASH:" A TEST IN CRITICAL THINKING

Comment:

Because interest in clean air, clean water and preservation of nature has grown so much in recent years, some may feel that the battle is just about won - that government, industry and private individuals will be able to work together to guarantee the continued availability of those elements necessary not only to sustain life on this planet but to make life worth living. But as the environmental movement has gained momentum in this country, so have the forces which oppose the environmentalists. Some, for instance, try to make major exploiters and polluters of the environment smell like roses. Others put up a facade of environmental concern while continuing to rape the environment. I recall the example of a Canadian logging firm which established, for public benefit, a few campsites and picnic grounds on its extensive land holdings, while continuing its callously destructive logging practices. There are also those who concentrate their efforts on whitewashing environmental problems. I remember reading a leaflet printed and distributed by the Lead Industries Association, Inc. I learned from this that lead poisoning of children who eat paint is largely the fault of ghetto mothers who aren't good enough housekeepers to sweep up the chips before their children do. And that "we do not acknowledge that lead in the atmosphere from automotive exhausts constitutes a health hazard." Environmentalists should be pre-lead, we're told, because lead is used in batteries that would power "non-polluting" electric cars and because lead, an effective sound barrier, can be used to combat noise pollution. Let't hear it for lead!

These are just a few examples of the "environmental backlash" which appears in our country today. The following speech, by a prominent magazine publisher, was utilized as a test of critical thinking in my class:

> Thomas R. Shepard, Jr., "The Case Against the 'Disaster Lobby,'" The Living Wilderness Magazine, Summer 1971, pp. 25-30.

Each student was given a copy of the speech. I made no introductory remarks regarding the text in order to avoid prejudicing student opinion. The students read carefully and critically. They contradicted Mr. Shephard's thesis, issue by issue, pointing out the weaknesses and errors of his arguments. Perhaps the boy who gave a simple yet concise evaluation of the speech said it best: "That's a lot of bull!"

It is my belief that we will be increasingly confronted with the tactics of anti-environmentalists. Students, as well as all citizens, must be able to clearly recognize the frailties and inconsistencies of their arguments. It will not be an easy task, for the enemy often lurks in high places and speaks with an eloquent tongue. Our ability to think critically will surely be put to the test.

V. FINAL PAPER: "A LAND ETHIC FOR TOMORROW"

Note to teacher:

The students were asked to present their ideas on a "Land Ethic for Tomorrow." Some of these student-authored papers appear in the following pages.

Student papers:

I have narrowed my thoughts for a land ethic down to three main ideas; that we must have first, a faith in technology, second, faith in our government, and last, faith in ourselves.

Faith in technology - I think one of the greatest ironies that exists in our society is the fact that we are able to send men to the moon yet we have not found the answers to clean air, clean water, and many more of our environmental problems. When you really stop to think about the years and years of experimentation and the work and effort that goes into such a feat it just seems incredible. And then I think we must certainly have the resources to overcome what we have done to our environment. I think then, that we have the knowhow but we don't have the right attitude. The prevalent attitude among the everyday Joe Blow seems to be, "I'm just one guy, what can I do?" There is something that each person can do and that is to be consciously aware of how he is harming the environment and then correct it.

We can't have overconfidence in technology either. Merely having the knowhow isn't going to make things get better. We can't just sit back and expect technology to take over. We must become actively involved ourselves.

Secondly we must have faith in our government. When I look at what's happened to the environment it is very easy for me to develop the attitude that this is our government's fault for not doing something to stop it. I also think the government must not care because improvements are progressing so slowly.

Again there is something that we can do. If we get concerned as individuals and as communities, the concern will grow and spread to the legislative body of our government. We can't sit back and think the politicians are all a bunch of slobs who don't care what happens to us or the environment. If there are politicians who don't have good voting records dealing with the environment, they can be replaced. Again, we must take the time to be concerned before any progress is going to be made.

Our government is set up so that changes can be made if we get involved and make those changes happen. It's not going to change on its own.

My third idea is that we must have faith in ourselves. We can make these changes and we can't give up.

There are things each person can do. We can become involved in recycling. We can vote for those people who will deal with environmental legislation. We can put pressure on those companies that are polluting the environment such as the oil companies and the car industries. We can support agencies such as The Nature Conservancy.

We must also change our priorities. Too many people are concerned with how many cars they have and how high their house is on the hill. We can't put so much emphasis on the material things. In Los Angeles everyone owns a car. You can see what this type of affluence has done to the environment, in fact you can cut it with a knife.

Our land is here for us to enjoy, not to exploit. We've got to live in harmony with nature, not conquer it. I think we can make changes, we've got to make changes.

- Connie Harrison

Once I read a book and the theme of it was that art is its own owner. No man, not even the creator, can ever really own it. It passes from hand to hand for all to enjoy. I believe that this is the way we should view the land. It, too, is a piece of art created by millions of years of changes and it has passed through many kinds of life. Perhaps someday we may understand that the land, like art, belongs to everyone, and to no one.

- Ellen Burck

We have a high price to pay in order to obtain an unspoiled environment, but through the help of the government, businesses, conservationist groups and individuals through careful planning we can preserve the beauty of America. The modern life is too complex. We are too mechanized, we must stop letting some machine do it all for us. The opinion that science can fix everything must be obliterated completely. We are becoming too indoor-oriented and are becoming fat, lazy Americans. As we progress towards an unspoiled environment we will realize the benefits and beauty derived is worth the price we have to pay. We will have to make all decisions with concern for the future, not just the present.

- Carla Santos

"Each man's life represents a road towards himself, an attempt at such a road, the intimation of a path. No man has ever been entirely and completely himself. Yet each one strives to become that."* In this eternal search for self, however, man has been notorious for changing his surroundings, in order to affirm his dominence and thus his self. The classic example is our stereotype, middle class American who surrounds himself with comfort, certainly at the expense of the environment, in order to prove his own worth. Up until now man has been able to adjust to the changes he has inflicted on himself. We are used to

* Herman Hesse, Demian

no longer having wide open spaces free from other men and their contraptions, we have adapted to the fact that we no longer have fresh air to breathe or pure water to drink. If the men and women of a hundred years ago were suddenly exposed to the inescapable man-made noise of our age they would go insane; we no longer notice it.

- Kirsten Irgens-Moller

In this past century, America has drifted away from being the agriculturally based nation that Thomas Jefferson had proposed, and developed into an industrially supported country. Because of this we have lost the sense of dependence on a strong fertile land with a clean environment that would have helped us to have kept our land unpolluted. Our newly developed technology which has shown us how to fly around the world in only a few hours has also deprived us of a feeling of being connected to a certain piece of property. These things have alienated us from nature and have given us a feeling that we are not a part of nature, that we are in control of it. In order to develop a land ethic we must first realize that man is an integral part of the ecological balance of nature and that his technology is not, in fact that his technology is a factor that can be both dangerously disruptive or a counter-balance to the existing imbalance.

In the years to come we must take strong action to attempt to save the land, air, and water from becoming further polluted and begin to return it to the clean healthy land that it once was. This should come in the form of legislation forcing the automobile manufacturers to come out with a non-polluting engine quickly and having the cars now on the road either altered to greatly reduce their emissions or banned from the road. This sort of regulation should also be applied to all motor vehicles and to aircraft. There should also be more land set aside for wildlife areas and general campgrounds that have prohibitions on all motor vehicles except emergency vehicles. There should be some sort of education in the schools teaching children that the "Man Over Nature" idea is wrong and that they are responsible for protecting the land. We should instill people with the idea that the earth belongs to everybody of this generation and the coming ones. That we must let the land remain clean and pure so that our children can live with it and learn from it.

We have seen that in wildlife areas such as the Camassia conservancy there is a community between the birds, animals, plantlife, earth, water, and even the weather. Now we must show the human race that he belongs in that community and that without it he dies also. We must show men that even though they can possibly live through the slaughter of the environment that life will not be worth living.

Thoreau found an intricate beauty in nature that will soon be gone if people don't strive today to protect it.

- Jim Gottliebson